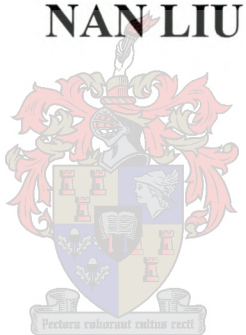
# A COMPARATIVE ANALYSIS OF CULTURAL INFLUENCES ON KNOWLEDGE MANAGEMENT APPROACHES IN WESTERN AND EASTERN CORPORATIONS: A PRELIMINARY STUDY

**NAN LIU**




Thesis presented in partial fulfillment of the requirement for the degree of Master of Commerce at the University of Stellenbosch.

Supervisor: **Prof. M. Leibold**

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# DECLARATION

I, the undersigned, hereby declare that the work contained in this thesis is my own original work and has not previously in its entirety or in part been submitted at any university for a degree.

**Signature:**

**Date:**

# ABSTRACT

Knowledge is generally regarded as a new competitive business resource in the information age. The leveraging of this resource has therefore become a significant concern of knowledge management. Knowledge management is not culturally neutral, however, and there seem to be differences between Western and Eastern knowledge management practices. In order to address these differences and determine their cultural roots, a comparative analysis of the cultural influences on knowledge management approaches in Western and Eastern corporations is needed. To fulfil this objective, it was firstly necessary to clarify the basic concept of knowledge, knowledge management and some relevant cultural issues. Secondly, specific Western and Eastern corporations were chosen as case studies, and their knowledge management approaches were analysed. In a third step, a comparative analysis was done between Western knowledge and Eastern knowledge management practices. The culturally determining factors are presented.

In the second part of the study, the relationship between knowledge management and cultural issues was discussed. Since knowledge management is still in its infancy, this means that a common language is being established. Although the importance of corporate culture has been recognised, national cultural influences on knowledge management practices still need considerable scholarly attention.

In the third part of the study, three national cultures were chosen to represent the Western and Eastern cultures. America and Sweden represent Western culture, while Japan represents Eastern culture. Several corporations, including IBM, Skandia, Toshiba, Sharp, were presented as case studies and their knowledge management approaches were analysed, e.g. tacit knowledge management focus, explicit knowledge management focus, knowledge creation, knowledge reuse, internal acquirement of knowledge, external acquirement of knowledge, etc. Based on the analysis of the Western and Eastern corporations' knowledge management practices, a comparative analysis was conducted to identify the role that national culture plays in corporate knowledge management.

In the last part of the study, the conclusions indicated that national cultures do influence knowledge managers in their choice or omission of certain approaches to knowledge management. Following from this conclusion, several future research suggestions were proffered.

# OPSOMMING

Kennis word oor die algemeen as 'n nuwe mededingende bron van die inligtingsera beskou. Die invloed van hierdie bron het dus 'n betekenisvolle aangeleentheid vir kennisbestuur geword. Kennisbestuur is egter nie kultureel-neutraal nie en daar is toenemende bewyse van verskille tussen Westerse en Oosterse kennisbestuurpraktyke. 'n Vergelykende analise van kultuurinvloede op die kennisbestuurbenaderings van Westerse en Oosterse ondernemings is nodig om hierdie verskille te bepaal en hul grondslae te ondersoek.

Om aan hierdie doelstelling te voldoen was dit nodig om eers die basiese kennis- en kennisbestuurbegrippe en fundamentele kultuurdimensies te verklaar. Tweedens is spesifieke Westerse en Oosterse ondernemings gekies as gevallestudies en is hul onderskeie kennisbestuurbenaderings geanaliseer. Derdens is 'n vergelykende analise van Westerse en Oosterse kennisbestuurpraktyke gemaak.

In die tweede gedeelte van hierdie studie word die verhouding tussen kennisbestuur en kulturele kwessies ontleed. Aangesien kennisbestuur nog in sy kinderskoene staan beteken dit dat 'n gemeenskaplike terminologie gebou moet word. Alhoewel die belangrikheid van korporatiewe kultuur al herken is, benodig die invloede van 'n nasionale kultuur op bestuurspraktyke nog aandag.

In die derde gedeelte van hierdie studie word drie lande as die verteenwoordigers van Westerse en Oosterse kulture gekies. Amerika en Swede verteenwoordig Westerse kultuur, terwyl Japan Oosterse kultuur verteenwoordig. Verskeie ondernemings soos IBM, Skandia en Toshiba word as gevallestudies behandel en hul kennisbestuurbenaderings word geanaliseer, bv. onuitgesproke kennisbestuurfokus, eksplisiete kennisbestuurfokus, kennisskepping, kennisherverbruik, interne kennisverkryging en eksterne kennisverkryging. 'n Vergelykende analise, gebaseer op die onderskeie analises van Westerse en Oosterse kennisbestuurpraktyke, word gedoen om die rol van nasionale kultuur in korporatiewe kennisbestuur te identifiseer.

Die bevindings, gevolgtrekkings en aanbevelings van die studie toon dat kennisbestuurders wel deur hul nasionale kultuur beïnvloed word in hul keuse, al dan nie, van sekere benaderings tot kennisbestuur. Verskeie voorstelle vir toekomstige navorsing, afgelei van die gevolgtrekkings en aanbevelings, word hierna voorgelê.

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I also appreciate Ilse who not only proof-read this study, but also encouraged me greatly.

# DEDICATION

***To my husband Jingjiang who has accompanied me through all the frustration, discouragement, excitement, and happiness.***

# TABLE OF CONTENTS

# PART III: CULTURAL INFLUENCES ON KNOWLEDGE MANAGEMENT APPROACHES – A COMPARATIVE ANALYSIS

## CHAPTER 3: EASTERN APPROACHES TO KNOWLEDGE MANAGEMENT



## CHAPTER 4: WESTERN APPROACHES TO KNOWLEDGE MANAGEMENT

# LIST OF FIGURES

# LIST OF TABLES

# PART I
# INTRODUCTION TO THE STUDY

# CHAPTER 1
# INTRODUCTION

## 1.1 Background

The increasingly intense nature of global competition, together with tremendous increases in global information and know-how, have made the issues of organization learning and knowledge management central concerns of contemporary strategic management (Sanchez and Heene, 1997; Wiig, 1997b). Most authors agree that effective knowledge management can lead organizations to act more intelligently, thereby gaining and sustaining the competitive advantage they seek (see e.g. Crawford, 1997; Porter, 1997; Teece, 1997; Wiig, 1997a).

Researchers, as well as company executives, realize that knowledge is the most important asset of their organizations, and consider knowledge management as critical to future survival. A wide range of authors have commented on this trend in publications such as "The learning organization" (Argyris and Schön, 1978), "The intelligent organization" (Quinn, 1980), "The knowledge society" (Drucker, 1993; Stehr, 1994), and "The knowledge–creating company" (Nonaka and Takeuchi, 1995).

It is now generally accepted that organizations are clearly well into the knowledge age (see e.g. Duffy, 1997; Jackson, 1997). Although many generic knowledge management concepts are emerging globally, some researchers emphasize that it should be recognized that the knowledge management approaches in corporations are not culturally neutral (Wiig, 1997a; Gibbert, 1999), and are influenced by a number of cultural factors and conditions (Wiig, 1997a). It is suggested that the knowledge management approaches or strategies that organizations decide to use should best match their national and organizational culture.

## 1.2 Statement of the problem

Most scholars agree that effective knowledge management is a complex challenge and current insight into the topic is still superficial and incomplete, although there is an abundance of

definitions. Some scholars, such as Teece (1998) suggest that a standard vocabulary to express an accepted understanding of basic knowledge concepts is necessary. Other scholars, such as Duguid (1998) warn against "the trap" of assuming that one "right" definition of knowledge will suddenly be achieved. In fact, combining different assumptions about different kinds of knowledge and knowledge environments is time consuming (Cohen, 1998).

In a cultural context, there is a strong view that Western hemisphere organizations tend to emphasize explicit knowledge, while the Japanese tend to stress tacit knowledge (Nonaka and Takeuchi, 1995). In the U.S. for example, it seems that most knowledge management practices focus on collecting, distributing, re-using and measuring existing explicit knowledge. In Japan, the emphasis is on knowledge creation, which focuses on the development of conditions that favor the exchange of tacit knowledge between individuals (Cohen, 1998). The question then arises why these differences exist between Japanese and Western knowledge management approaches. One of the reasons may be found in cultural roots, and this is the major hypothesis of this study.

It is generally recognized that knowledge management in any organization should require a suitable culture to support it. Until recently few firms have attempted the kind of thorough cultural and organizational restructuring that would lead to dramatic improvements in knowledge creation and knowledge transmission (Cole, 1998). Many organizations still simply borrow knowledge management approaches from other organizations (Wiig, 1997b) – no matter what kind of national cultural background they possess.

Knowledge management practices seem to be culturally dependent on the particular country or environment, and what works in one country does not necessarily work in another (Gibbert, 1999; Hofstede, 1994; Hedlund and Nonaka, 1993). Furthermore Western and Eastern ways of perceiving knowledge and knowledge management do contain a number of significant differences. These differences are recognized as real and substantial and apparently cannot be ignored (Cohen, 1998; Nonaka and Takeuchi, 1995; Hedlund and Nonaka, 1993). This present study argues that knowledge management strategies, approaches and models that are successful in one culture do not necessarily create a competitive advantage in another culture, and evidence from Eastern and Western research to substantiate this acquirement is presented.

From the above statements the following implications follow:

- It is necessary to understand knowledge and knowledge management as fully as possible, and define an organizational working definition thereof.
- It is necessary to understand that knowledge and knowledge management have specific contexts in different organizations.
- Cultural factors seem to be very important variables for identifying suitable knowledge management approaches, and need to be researched.

## 1.3 Objective

The objective of this study is to provide a preliminary comparative analysis of cultural influences on approaches to knowledge management in Eastern and Western corporations, and to provide further research suggestions should considerable differences in these approaches be substantiated.

## 1.4 Methodology

The methodology of this study has been a qualitative one, involving extensive gathering and analyzing all relevant literature on the subject, including published and unpublished literature on national and (especially) international levels.

The literature includes both relevant academic and popular sources from the fields of strategic management, organizational theories, and cultural studies, relating to corporate case studies in respect of Japanese and selected Western corporations. The books, articles, research papers, relevant theses and dissertations, Internet sources and other relevant documents have been analyzed to enable the necessary comparative analyses to be made.

## 1.5 Scope

As mentioned before, the majority of the research and publications originate from North America and Europe with the majority being from North America. The counterpart culture – Eastern culture – focuses on the Japanese culture, which retains much of the spirit of Chinese culture such as Confucianism, and Buddhism, will be highlighted.

A major limitation to the scope of this study is that although two major cultures are compared – Eastern and Western – the Eastern culture is limited to the Japanese culture, while the Western culture is only focused on American and Swedish cultures. However, for purpose of preliminary comparison, these sub-cultures form appropriate bases for analyses and conclusions, with indications of further extensive research avenues and approaches.

## 1.6 Structure of presentation

The results of this study are presented in six chapters, grouped into four parts. These are as follows:

**Part I: Introduction to the study**

This part includes the first chapter. It gives a general introduction to the study and includes the reasons, objective, scope and structure of presentation. The study objective provides a clear indication of the purpose of this study. In the scope and structure section, the source of the literature and layout of this study are identified.

Chapter 1 serves as background for the discussion that follows later. It includes descriptions of the basic concept of knowledge, knowledge management and the necessity of recognizing the cultural influence on knowledge management approaches.

**Part II: Knowledge, knowledge management and cultural issues**

This part consists of one chapter, i.e. chapter 2, which addresses the relevance of cultural issues for knowledge and knowledge management. It asserts that there are still many organizations that do not understand what knowledge, knowledge management and their importance to the organization's future development involve. This chapter covers the main streams of literature about knowledge and knowledge management concepts in order to relate knowledge and knowledge management from a business management perspective.

In this chapter the different knowledge management strategies are also described. Some cultural issues which have very strong relationships with knowledge management are included where relevant, although these relationships are extensively discussed in chapter 5.

**Part III: Cultural influence on knowledge management approaches in Eastern and Western corporations – a comparative analysis**

There are three chapters in this part, i.e. chapters 3, 4 and 5. Chapter 3 presents the Eastern approaches to knowledge management. A selected number of Japanese corporations are used as case studies and their knowledge management approaches are discussed.

Chapter 4 introduces the Western approaches to knowledge management. A number of Western corporations – American corporations and Swedish corporations – have been selected as case studies. Their knowledge management approaches are discussed and compared.

Chapter 5 provides a comparative analysis of Eastern and Western approaches to knowledge management. Knowledge management approaches from both West and East will be compared and analyzed. The questions why these differences exist and how managers can take advantage of another culture's knowledge management approaches, are the focus of this chapter.

This part serves as the most important part of the study. It focuses on the cultural influences on the knowledge management approaches in different countries and different organizations. These differences have been shown as very significant, not to be ignored by corporations operating in different cultural environments.

**Part IV: Summary, conclusions, and future research suggestions**

Part IV is the last part of this study and consists of one chapter, i.e. chapter 6. This chapter is a summary of the study and its findings. The conclusions are also presented in this chapter, and future research suggestions and recommendations on research topics are provided.

## 1.7 Summary

The first part of this study serves as a general introduction to the study. The background, problem statement and scope of the study are presented in this chapter. The objective and structure of this study are also identified in this part. This part serves as a guide for the presentation of the study.

# PART II

# KNOWLEDGE, KNOWLEDGE MANAGEMENT AND CULTURAL ISSUES

# CHAPTER 2
# THE RELEVANCE OF CULTURAL ISSUES FOR KNOWLEDGE AND KNOWLEDGE MANAGEMENT

## 2.1 Introduction

While scrutinizing the literature on knowledge and knowledge management, it was found that numerous books, articles and special editions of journals have already contributed towards explaining the concepts of knowledge and its management in organizations since the early 1990's. It seems that although knowledge management has attained a considerable, but still narrow momentum, most organizations have not yet heard about it (Wiig, 1997a).

Knowledge and its management are complex concepts, therefore different people see them in different ways. As a new management rationale, knowledge management needs a fundamental concept base to build a complete body of theory. It may be necessary to find the right language for knowledge and knowledge management, but a wider choice rather than a narrow one would be better. Differences in vocabularies reflect different valid assumptions about different kinds of knowledge and knowledge environments (Cohen, 1998), therefore the richness of the definitions can present clearer pictures of both knowledge and knowledge management.

In this chapter, the different vocabulary of knowledge and knowledge management will not be evaluated, instead, the aim is to cover the main stream of literature on knowledge and knowledge management concepts in order to enhance the understanding of this new management perspective. Simultaneously, the relevant literatures of cultural issues within knowledge management are identified.

Firstly, the characteristics of knowledge are presented. The differentiation between data, information and knowledge is made in order to make these confusing concepts clear. Secondly, knowledge management concepts, strategies and learning systems are respectively discussed. Thirdly, relevant

cultural issues are presented and their relationships with knowledge management are discussed. Finally, a summary of the chapter is provided.

## 2.2 Characteristics of knowledge

The meaning of knowledge has exercised various philosophers' minds over the ages. Relevant topics include: 'what is the content of knowledge?', 'what does it mean if you know something?' and 'how to create and transfer knowledge?'. However, there is still no generally accepted definition of this word.

The study of human knowledge can be traced to the ancient Greek period. Plato first introduced the concept "Knowledge—justified true belief" from a philosophic perspective in his book "Meno, Phaedo, and Theaetetus".

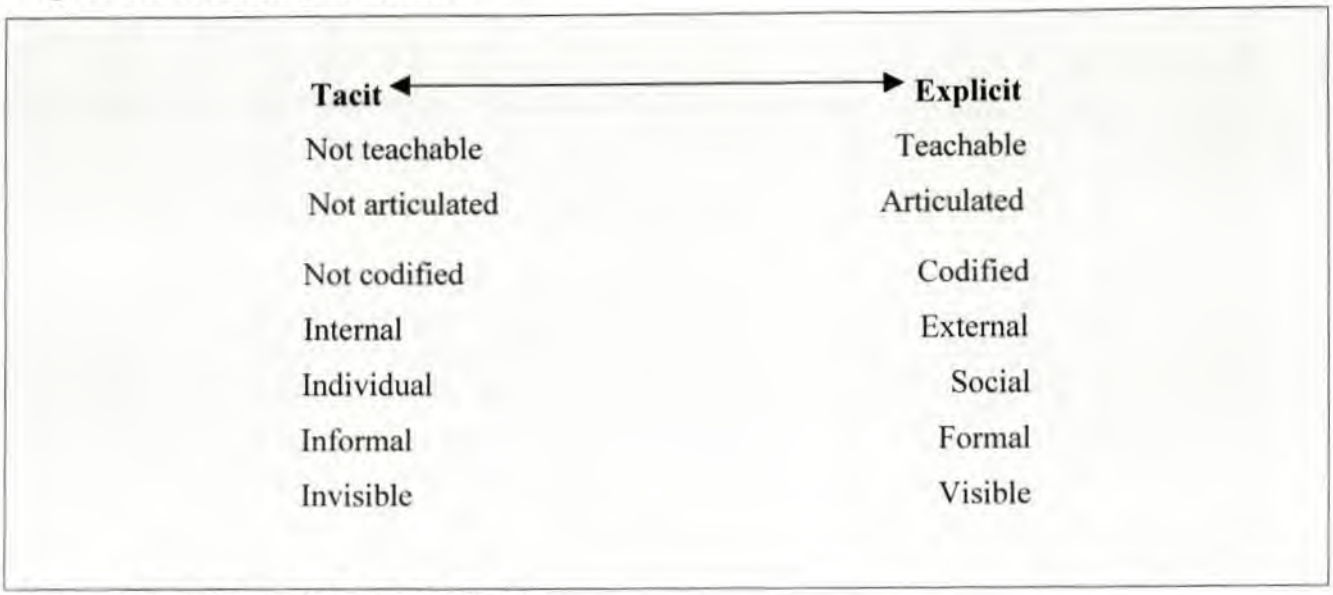
In 1965, the economist Marshall argued that knowledge is our most powerful engine of production. In the interim knowledge has become a topic not only studied by philosophers, but also by economists and scholars from management fields.

According to Michael Polanyi (1966) knowledge can be classified into two dimensions—tacit and explicit. This became the classic work for later scholars, and his description was accepted by many scholars (see e.g. Nonaka & Takeuchi, 1995; Radley, 1997; Allee, 1997 etc.).

As knowledge is not totally either tacit or explicit, Leonard and Sensiper (1998) present a knowledge continuum as follows:

> "Knowledge exists on a spectrum. At one extreme it is almost completely tacit, that is, semiconscious and unconscious knowledge held in people's heads and bodies. At the other end of the spectrum, knowledge is almost completely explicit, or codified, structured and accessible to people other than the individuals originating it. Most knowledge, of course exists in-between the extremes." (Leonard and Sensiper, 1998: 112)

**Figure 2.1: Knowledge Continuum**




Source: adapted from Gibbert, 1999: 44

Nonaka and Takeuchi (1995) identified organization knowledge as being created through the interaction between tacit and explicit knowledge. They developed a framework by pointing out two dimensions – epistemological and ontological – of the organization knowledge creation spiral (see figure 2.2).

- The vertical axis represented the epistemological dimension where knowledge conversion takes place between tacit knowledge and explicit knowledge. They postulate four different modes of knowledge conversion as follow (see table 2.1):

**Table 2.1: Four models of knowledge conversion**

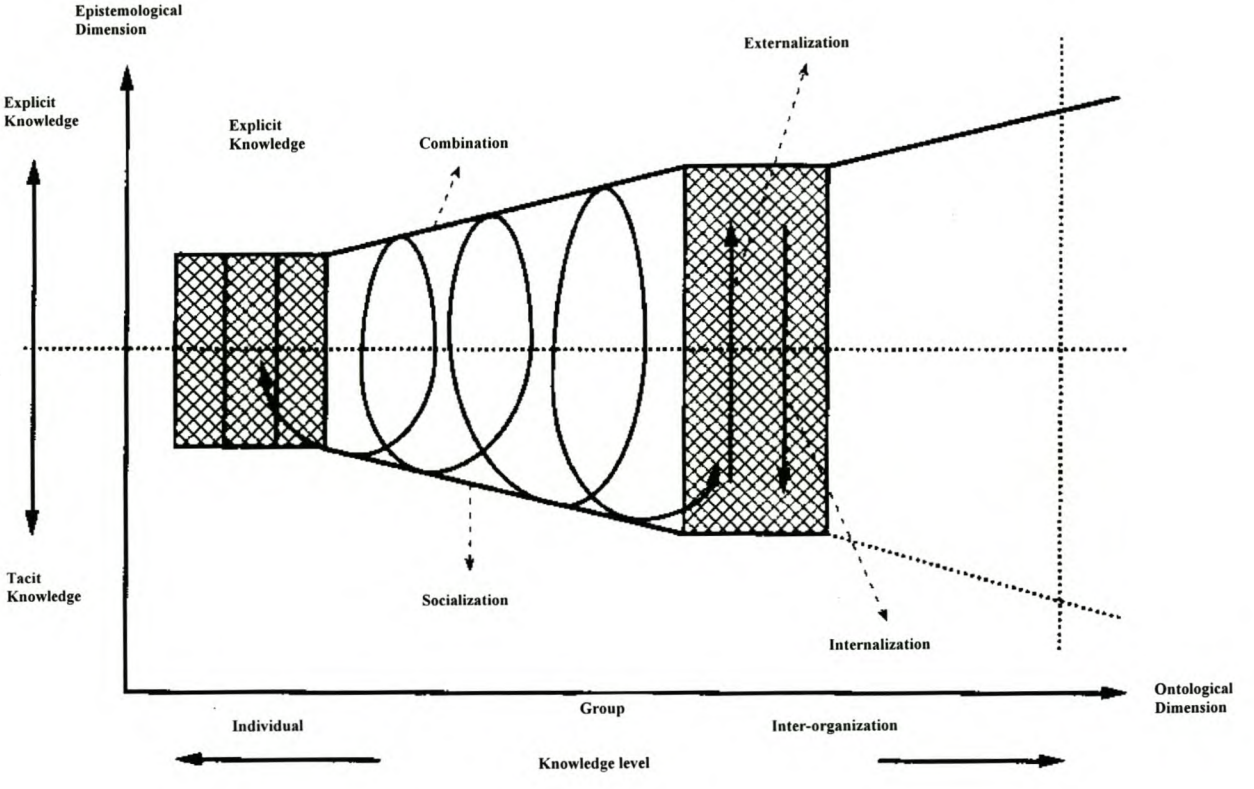
| Conversion Process | Knowledge Flow |
|---|---|
| 1. Socialization | From tacit knowledge to tacit knowledge |
| 2. Externalization | From tacit knowledge to explicit knowledge |
| 3. Combination | From explicit knowledge to explicit knowledge |
| 4. Internalization | From explicit knowledge to tacit knowledge |

Source: adapted from Allee, 1997: 45

In their book they showed how during the 1980s Japanese manufacturing corporations used the above four processes of knowledge conversion to design new and creative products. The four models of knowledge conversion can be used as guidance on the production process of professionals working in knowledge organizations (Sveiby, 1997).

- The ontological dimension represented on the horizontal level, is where knowledge created by individuals is transformed into knowledge at group level, organization level, and inter-organization level.

**Figure 2.2: Knowledge spiral**




Source: from Nonaka and Takeuchi, 1995: 73

Gardner (1995) also gave a complementary definition of knowledge:

- Knowing what kind of information is needed ("know what").
- Knowing how to process information ("know how").
- Knowing why this information is needed ("know why").
- Knowing where information can be found to achieve a specific goal ("know where").
- Knowing when certain information is needed ("know when").

Sanchez (1997) agrees with Gardner and suggests that at least three categories of knowledge may exist within firms. They are know-how (practical knowledge), know-why (theoretical knowledge), and know-what (strategic knowledge).

In his book, "The new organizational wealth", Sveiby (1997) described the four characteristics of knowledge as follows:

- Knowledge is tacit.
- Knowledge is action-oriented.
- Knowledge is supported by rules.
- Knowledge is constantly changing.

Within the four characteristics, knowledge is defined as a capacity to act and it cannot be described in words because it is mainly tacit. Knowledge is also both dynamic and static. A process of knowing and a certain context are very important for the existence of knowledge.

Knowledge is considered as the most important asset of an organization, therefore, Harley (1997) categorized knowledge assets as follows:

- Intellectual property. This represents knowledge assets that can be protected by law, which include patents, trademarks, and trade secrets.
- Structurally embedded assets. These are the business processes, operating manuals, databases, computer programs, methodologies, business culture and business ethics of the organization, such as culture, core process, data and information, standards and procedures, business plans and strategies.
- People centered assets. These refer to the knowledge inherent to the people of the organization, and include skills, experience, know-how and education. Much of this knowledge is tacit, and one of the significant focuses of knowledge management is to convert such tacit knowledge to

explicit knowledge, thereby increasing it's application possibilities, and intrinsic value, such as skills, know-how, experience and education.

- External assets. This is in essence the relationship the organization has with its external environment. The most significant of these assets are probably the market centered assets, which include product and service brands, image, customer loyalty and the composition of the customer base. Other external assets relate to relationships with other stakeholders such as suppliers, shareholders, society and government, etc., as well as the management of the physical environment.

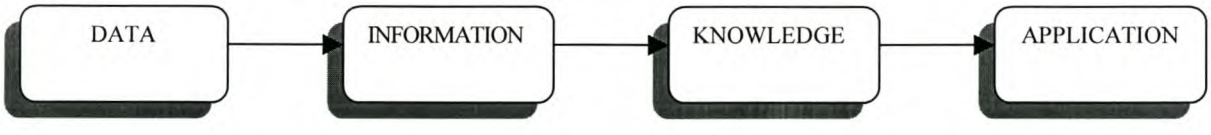
Many scholars have reached the agreement that knowledge is a new competitive resource. It is not just another resource beside the traditional factors of production-labor, capital, and land – but is the only meaningful resource, the power, the lever, the heart of productivity and the solution, which makes the new society unique (Nonaka and Takeuchi, 1995; Drucker, 1993; Quinn, 1992; Reich, 1991; Toffler, 1990).

### 2.2.1 The relationship between data, information and knowledge

To date some scholars still use the terms information and knowledge interchangeably, however the two are distinctly different.

Duffy (1997) described the relationship between data, information and knowledge as follow (see figure 2.4):

**Figure 2.3: Relationship between data, information, and knowledge.**




Source: from Duffy, 1997: 29

From figure 2.3, it is clear that when data, which can be raw text, numbers, images or sounds, etc., is processed and presented in a meaningful way, information emerges. In other words information

largely consists of data which is organized, grouped and categorized into patterns to create meaning (Holtshouse, 1998).

Knowledge is the interpretation of information. It is created by putting information to productive use and enabling correct action. Information does exist even if it is not used, but knowledge needs to be applied. Without use, knowledge cannot exist. Information can be cheap or even free at times, however knowledge creation is very expensive, since knowledge needs to be processed and made useful in a costly process (Fruin, 1997).

Knowledge is quite different from information, and managing knowledge is therefore qualitatively different from managing information. Managing knowledge starts with stressing the importance of people. Information management, on the other hand, often starts with a technological solution.

## 2.3 Nature of knowledge management

As in the knowledge age, the ability of an organization to manage, store, and distribute knowledge is paramount. This capability is known as "knowledge management" (Liebowitz and Wilcox, 1997). Organizations have found that "knowledge" is their most competitive weapon. How to use this weapon effectively, will depend mainly on their knowledge management ability.

Knowledge management has very diverse practical and academic roots (Drew, 1999). The concept emerged in the early 90s (Hansen, Nohria and Tierney, 1999), but as yet it has no authoritative definition.

Wiig (1994) defined knowledge management as having two dimensions viz. broadest sense and practical sense.

> "In its broadest sense, knowledge management (KM) is a conceptual framework that encompasses all activities and perspectives required to making the organization intelligent-acting on a sustained basis. In a narrower and very practical sense, KM is a set of distinct and well defined approaches and processes to find and manage positive and negative critical knowledge functions in different kinds of operations,

> identify new products or strategies, augment human resource management, and achieve a number of other highly targeted objectives." (Wiig, 1994: 8)

In Wiig's later work, he combined the two senses and defined knowledge management simply as follow:

> "Knowledge management is to build, organize, and make good use of knowledge assets to make the enterprise act as intelligently as possible to secure its viability and overall success." (Wiig, 1997b: 71)

From this definition, it is obvious that the overall purpose of knowledge management is to maximize the enterprise's knowledge-related effectiveness and returns from its knowledge assets and to renew these assets constantly.

From a managerial perspective, Wiig (1997a) systematically identified knowledge management as comprising of four emphasis areas. They focus on:

1. Governance functions: Top-down monitoring, guidance, and facilitation of knowledge–related activities;
2. "Staff" functions: Creation and maintenance of knowledge infrastructure capabilities
3. Operational functions: Renewing, organizing, and transforming knowledge assets;
4. Realizing the value of knowledge: Leveraging or using knowledge assets to support the operational objectives of the enterprise.

Van der Spek & Spijkervet (1997) defined knowledge management as the activities to explicitly control and manage knowledge within an organization and which are aimed at achieving the company's objective. They identified the objectives as follows:

- Developing new knowledge and improving existing knowledge effectively and efficiently.
- Ensuring the specific distribution of new knowledge and the smooth transfer of knowledge within the organization.
- Ensure an effective securing of knowledge which is available to the whole organization.
- Combining the best knowledge effectively and efficiently within the organization or a network.

They also argued that the core of knowledge management is the organization of processes in which new knowledge is developed and knowledge is distributed to those who need it. On the other hand,

knowledge is not only made accessible to the whole organization, but all knowledge areas inside are also combined.

As the above statements are very complicated, a simple definition is presented by Brustad (1999) as follow:

> " Knowledge management is the transmission of information by word-of-mouth, like a secret family recipe handed down from generation to generation. Or it can be as complex as an electronic medical record linked to a set of care management protocols accessible over the Internet." (Brustad, 1999: 16)

### 2.3.1 Knowledge management strategies in corporations

Knowledge management needs strategies to guide the managerial process. Without the guidance, knowledge management cannot be successfully applied.

O'Dell (1996) identified six possible knowledge management strategies, which were adapted by Harley (1997) as follows:

- Knowledge management as a business strategy: The explicit management of knowledge is a key strategy for success, for example in consulting firms with knowledge as product.
- Innovation and knowledge creation: Firms that focus on innovation, discovery and research to maintain a competitive advantage. Products and services have very high knowledge components, such as Pharmaceutical products.
- Transfer of knowledge and best practice: Focus on identifying and learning from best practices, and applying them to new configurations and new locations. They are often driven by cycle time reduction and the of learning organization values. Examples include organizations in the high–tech manufacturing environment (HP, Dow Chemical, etc.) as well as service providers such as insurance and banking outfits.
- Customer focused knowledge: Focus on the need to understand the customer, to build intimacy, and to help the customer become successful. Typical of organizations in the service industry.

- Intellectual asset management: The marshalling of intellectual assets such as patents, new technologies, and management practices for improved profitability. The focus is on internal improvement.
- Personal responsibility for knowledge: Developing strategies that use the individual's development and contribution to knowledge as a foundation for a company-wide management system.

Wiig (1997b) also presented several knowledge management strategies as follows:

- Knowledge strategy as business strategy: In order to make the best possible knowledge available and applied at each point of action, the strategies emphasize knowledge creation, capture, etc. in all the enterprise's practices.
- Intellectual asset management strategy: Management may center on renewing, organizing, valuating, safekeeping, as well as increasing the availability and marketing of the specific intellectual assets and structural knowledge assets at enterprise-level.
- Personal knowledge asset responsibility strategy: The strategies emphasize personal responsibility for knowledge-related investments, innovations and the competitive state, renewal, effective use, and availability to others of the knowledge assets within each employee's area of accountability.
- Knowledge creation strategy: The strategies focus on encouraging the organizational learning, research development and motivating employee innovation.
- Knowledge transfer strategy: Using the systematic approaches to transfer, obtain, organize, restructure, warehouse or memorize, repackage for deployment, and distribute knowledge is the central concern of the strategies.

Hansen, Nohria and Tierney (1999) in their article – "What's your strategy for managing knowledge?" discussed some popular knowledge management strategies in consulting corporations. They are:

- Codification strategy: This is a computer-centered strategy. Knowledge is carefully codified and stored in databases, where it can be accessed and used easily by anyone in the company used by corporations such as Andersen Consulting and Ernst & Young.

- Personalization strategy: This is a people centered strategy. Knowledge is closely tied to the person who developed it and is shared mainly through direct person-to-person contact. The computers are utilized to help people communicate knowledge, not to store it used by corporations such as McKinsey & Company and Bain & Company.

Both O'Dell and Wiig constructed knowledge management strategies for different industries. They believed that different industries should choose different strategies to achieve their competitive advantage. However, these strategies are only the frameworks and are relatively theoretical, while strategies which are used by the consulting corporations are more practical. Each of the corporations form strategies to enhance their knowledge management, based on their competence in either tacit or explicit knowledge.

### 2.3.2 The levels of organizational learning

Knowledge management can succeed only when it provides people with opportunities to require and use knowledge (Cook, 1997). However, without human learning, communication and motivation to give and receive knowledge, knowledge management cannot attain success. In other words, knowledge management is a continuous learning process through which knowledge is integrated, enlarged, deepened and applied.

Learning has three levels: individual learning, group (team) learning and organizational learning (Lynn, 1998; Duffy, 1997; Viedge and Cook, 1997; Nonaka and Takeuchi, 1995). At the team-learning level, Lynn (1998) uncovered three different forms of team learning. They are within-team learning, cross-team learning, and market learning. Organizational learning was categorized by Argyris and Schön (1978) into two types: single-loop learning, which entails incremental change with an existing framework, and double-loop learning which involves transformative change and the testing of underlying assumptions.

When an organization institutionalizes the original learning (individual learning and group learning) into the organization fabric, then it can become a learning organization. A learning organization was viewed as follow by Garvin (1993):

" An organization skilled at creating, acquiring, and transferring knowledge, and at modifying its behavior to reflect new knowledge and insight." (Garvin, 1993: 78)

In Peter M. Seng's eyes a learning organization is:

> "A learning organization is an organization that has an enhanced capacity to learn, adapt, and change. It's an organization in which learning processes are analyzed, monitored, developed, managed, and aligned with improvement and innovation goals." (cited by Gephart et al., 1996: 36)

As organizational learning arises from a complex interaction of individual and team learning, is less likely to be imitated, and more likely to be an enduring source of competitive advantage (Cassells, 1999). Learning as a capability is, however enhanced through its use. Without using learning skill, the organization cannot keep competitive edge.

## 2.4 The relevance of cultural issues and knowledge management

The relevance of cultural issues for knowledge management has been relatively neglected in the literature. It is necessary to firstly investigate what type of relevance of culture has for knowledge management.

Culture is defined by Hofstede as follow:

> "The collective programming of the mind which distinguishes the members of one group or category of people from another."(Hofstede, 1980: 260)

Culture has six levels (Hofstede, 1991):

- A national level
- A regional and/or ethic and/or religious and/or linguistic affiliative level
- A gender level
- A generation level
- A social class level
- An organizational or corporate level

Scholars such as Hofstede (1980, 1991, and 1994), Hall (1959, 1987) focused on the national level of culture study. These scholars also developed theories to substantiate that national levels of cultures have very strong influences on the management process and have significant applications for business activities. Although culture manifests at various levels (as mentioned above), cultural influences on management are most clearly recognized at the national level (Hofstede, 1994). This notion was also supported by the studies on the link between national culture and strategic decision making by Hambrick and Brandon (1988) and Schneider (1989). They suggested that the variation in executives' strategic orientation attribute to the different values embedded within national cultures and culture values will not only shape executives' view of organizations and the external contingencies they face, but also preference for different strategic decisions.

Other scholars such as Roethlisberger and Dickson (1975), Ouchi (1981), Dension (1990), Schein (1992) focused on the organizational culture and concluded that workgroups in organizations develop their own unique behavioral norms and that the emergent mode of behaviour could in fact assist or detract from an organization's performance. The so-called unique behavioral norm is organizational culture. It is " the underlying values, beliefs and principles that serve as a foundation for an organization's management system as well as the set of management practices and behaviours that both exemplify and reinforce those basic principles" (Dension, 1990: 2). Organizational culture is regarded as an important element for knowledge management in the organization today. Hibbert and Carrillo (1998) stated that "getting employees to share what they know is no longer a technology challenge – it is a corporate culture challenge" (Hibbert and Carrillo, 1998: 49).

Although organizational culture plays an important role in the organization's knowledge management process, the present study agrees that national level culture is the most powerful influence on the knowledge management approaches in different corporations. In fact, what a manager learned from his own national culture will definitely reflect on the management approaches and styles, likewise the knowledge management approaches. The managers choose certain approaches that contain many cultural elements to managing knowledge.

Some Eastern cultures are more supportive of tacit knowledge sharing such as that of Japan, China and Korea, however, Western cultures are more likely to emphasize explicit knowledge sharing, such

as that of in America, Canada and Germany. Due to these cultural factors, different nations' management practices are cultural–specific and they cannot or should not be blindly imported and exported. When the national culture is short of the supportive elements for certain management focus, the corporation culture should take the responsibility to create an amenable environment for knowledge sharing, knowledge creation and organization learning (Dove, 1999; John, 1998).

## 2.5 Summary

Although knowledge and its management have attracted considerable attention, they still require further development, not only from a practical perspective, but also an academic perspective. This chapter selects relevant literature as a background to better understand the concept of knowledge and knowledge management.

Knowledge has two dimensions, tacit dimension and explicit dimension. Nonaka and Takeuchi (1995) developed a framework that presents the two types of knowledge interacting spirally with each other to create new knowledge. Knowledge is also a type of asset. Data, information and knowledge are three different, but related, concepts.

The ability to leverage knowledge is probably the core competence of corporations. This ability is called knowledge management. Knowledge management needs management strategies, which should also integrate with corporate strategies. In order to be a smarter organization, learning is critical. From the individual level to organizational level learning needs to be managed.

Culture is a social mindset resulting from collective programming of a human being's mind and consists of six levels. Some scholars focus on the national level; others emphasize the organization level. The six levels of culture all influence knowledge management practices. This present study will only concentrate on the national level culture, which has a powerful influence on knowledge management practices, for further research.

# PART III

# CULTURAL INFLUENCES ON KNOWLEDGE MANAGEMENT APPROACHES – A COMPARATIVE ANALYSIS

International Data Corp (IDC) of Framingham, Mass. estimates that Fortune 500 corporations will lose US $12 billion in 1999 because of inefficiencies resulting from intellectual rework, substandard performance and the inability to find knowledge resources.

- By 2003, they will lose $31.5 billion.
- 3.2% of corporate knowledge is incorrect or becomes obsolete every year.
- 4.5% of knowledge is unavailable due to employee turnover, information mismanagement and knowledge hoarding.

All of these are the costs of knowledge mismanagement.

Source: Wareham, 1999: 6

From the above statement, it is obvious that correct and effective knowledge management can affect profitability of corporations. The following chapter 3 and chapter 4 will give some examples of successful knowledge management approaches in Eastern and Western corporations. Chapter 5 will investigate the cultural roots which result in differences in knowledge management approaches in Eastern and Western countries.

# CHAPTER 3

# EASTERN APPROACHES TO KNOWLEDGE MANAGEMENT

## 3.1 Introduction

In the post World War II era, Japanese corporations' continual growth achieved them a dominant position in the global electronics industry. This attracted many scholars' interest. Some Western scholars believed there was something different in the structure and function of these firms and their factory systems which would explain their sustained success and industrial domination. Other scholars thought Japanese organizations applied unusual management approaches.

Japanese management methods were sourced from the American Forces of Occupation which occupied Japan from 1949 to 1950 (Takeshi, 1994). It was using various training methods for the training of top and middle-ranking officer. During this period these management methods were copied, but over time they were developed into unique Japanese styles to suit the Japanese situation. These Western management approaches directly and indirectly shaped the management processes in Japan, but they were nonetheless modified by Japanese societal norms.

In 1995, two Japanese scholars – Nonaka and Takeuchi – published a book " The knowledge creating company". This book revealed the fact that the Japanese corporations' competitive advantage originated from management of knowledge creation and continuous innovation. This book became a classic work in the study of Japanese and international management and organizational strategies.

This chapter aims to introduce the knowledge management approaches of Japanese corporations. Several corporations have been chosen as case studies. They are Canon, Toshiba, Toyota and Sharp. Although all of them are Japanese organizations, they use different approaches to manage knowledge. These different approaches are discussed in this chapter. Practical suggestions gained from the experience of Japanese corporations are also presented. At end of this chapter a summary is given.

### 3.1.1 Japanese cultural background

This part functions as a general introduction to the Japanese cultural background.

Historically, Japan owes many of its cultural heritage and technologies to China, for example, Confucianism, Taoism and paper-making. After the Meiji Restoration in 1868, the Japanese aggressively sought Western expertise in industry, technology and administration. Nonetheless, Confucianism still has a profound influence on the Japanese culture. Under Confucianism, personal loyalties and commitments take precedence over everything else except family and organizational ties (Scarborough, 1998). Unequal power distribution is accepted as the social norm.

The Japanese have a holistic, systemic, nonlinear view of the world, which is different from the linear view of the westerner. In their highly contextual culture, Japanese communication contains many body languages and codes, which could confuse outsiders (Hall, 1983). Collective culture is another distinctive characteristic of Japan which values the individual duty and collective obligations more than individual rights.

Japan is a predominantly male-dominated country –-masculine society (Hofstede, 1980, 1991). In Japanese men's eyes, women should stay at home and take care of the children, rather than work outside and be managers. A high uncertainty avoidance culture also determines that all work should be highly structured to prevent uncertainties occurring (Hofstede, 1980, 1991).

## 3.2 Managing knowledge in Japanese corporations: Relevant case studies

### 3.2.1 Case 1: Toshiba-Yanagicho factory

Source: From Fruin, 1997: 1 – 200.

> Yanagicho factory is one of Toshiba's twenty-seven domestic factories. It is also a multi-production factory, which produces high value-added products. Everything from research and development, design, and engineering to quality assurance, product planning, and marketing are done there. Only one third of all regular employees are production workers at Yanagicho. In other words, two-thirds of employees are knowledge workers whose work largely consists of converting information to knowledge. These knowledge workers are not

only tied to machine pacing and factory scheduling, but are also engaged and integrated with groups and teams that are the pivot of industrial design, flow, and organization.

Organizational campaigning is very popular at Toshiba. It is a programmed, disciplined, recurring activity that integrates Toshiba' s multiple functions, products, and purposes. It orchestrates the managers, workers and engineers, differing and amplifying their knowledge and learning. "Creating new value" is one of these campaigns which emphasizes human resource training. Not that human resource was unimportant previously, but human resource training was not so consciously and conscientiously tied to the goals of efficiency, productivity, quality and profitability. The campaign tries to change employees to reconsider how and why things are done the way they are by using face-to-face training.

It is the norm that every new employee has to receive training before employment. After this training, they become the formal employees of Yanagicho and they will be assigned to their supervisors to continue study. Normally they need to be supervised for one or two years. The supervisors will continually give examples of how to handle a machine, how to twist the bolts etc. until the new employees can eventually work independently.

During the campaign, both on-the-job and off-the-job education and training are designed to enhance employment performance. The campaign does not just simply telling employees how to work, but aims to show employees how to work better.

Employees receiving off-the-job training will stay with their supervisors for two to three weeks. The supervisor will train them face-to-face. Textbooks and other relevant documents are also used in off-the-job training. Employees receiving on-the-job training will be assigned to their supervisors in the factory. One supervisor copes with several pupils at a time. His teaching is mostly dispensed through examples rather than by precept. After a long time of "feeling", the pupils eventually master the skills.

The campaign unites everyone — from divisions, departments, and sections to work groups and individuals within Toshiba – to start learning. Since the early 1990s, fully one-third of the budget of the General Affairs Department (the largest and most important staff function at Yanagicho) is devoted to education. The face-to-face training programme enlarges the factory's capability to upgrade and enhance its human resources.

After the campaign, a contest is organized to test the effect of the campaign. Every year Toshiba holds a skill contest. Twenty-seven factories each has to send a contest team, which includes each factory's most skillful craftsman, engineer, designer and so on. During

the contest, all the members will try their best to show what they have learned from the training programmes. It is a very good opportunity to learn and to share knowledge with other team members.

At Yanagicho the bottom-up management approach is employed. By encouraging flexible shop floor practices, knowledge workers respond to the market as well as management. These knowledge workers belong to different work teams. The team members work together, discuss different work problems together and they also create new work skills and ideas together. Even if one member draws on years of experience to come up with a new process innovation, the other team members will discuss it. If this idea is applicable, it will be submitted as a team project after consensus has been achieved among team members. Normally the management will treat these new ideas or projects seriously and reward the team (work group). This high-level employee involvement is the distinctive characteristic of Yanagicho.

At Toshiba core technology (knowledge) is the most important asset, even more important than financial factors. Although high technology is perishable, often short-lived, and financially risky, managers are prepared for any number of contingencies. The continual upgrading and designing of new core technology and the creation of new products are the essence of Toshiba. This technology-driven approach shapes the corporation's form and functions by using technology to determine strategies.

### 3.2.2 Case 2: Canon mini-copier project

Source: From Nonaka, 1991: 16 – 22; Nonaka and Takeuchi, 1995: 140 – 151.

In order to develop "a small multi-feature product" – mini-copier – a feasibility study team, headed by Hiroshi Nitanda, was formed at Canon. It consisted of eight people from different developments, three from production, two from marketing, and one from product design. The average age was twenty-eight.

The team members faced a formidable challenge. They had to solve what appeared to be a contradiction between reliability and cost. This needed a totally new concept of the way in which a copier operates. The designers knew that for the first personal copier to be successful, it had to be reliable. To ensure reliability, they proposed to make the product's photosensitive copier drum disposable. Several camp sessions, which were brain-storming seminars, were held outside the workplace by the team. In these sessions, team members

not only debated among themselves, but also invited people from other areas of Canon to discuss how the problem could be solved.

The breakthrough came one day when task-force leader Hiroshi Nitanda ordered out for some beer. As the team discussed design problems over their drinks, Nitanda held one of the beer cans and wondered aloud, "How much does it cost to manufacture this can?" The question led the team to speculate whether the same process for making an aluminum beer can could be applied to the manufacture of an aluminum copier drum.

Although the camp sessions brought together people with different rhythms and conflicts emerged, these conflicts were synchronized and eventually an idea that the cartridge could be made disposable, emerged. Thus the need for a regular maintenance service would be eliminated and the cost could be decreased significantly as well. A formal task team was also launched. Nearly two hundred scientists, engineers, and machine specialists joined together to develop the new product – the mini-copier.

At Canon the product-development team was organized according to "the principle of internal competition". A team was divided into competing groups that developed different approaches to the same project and then argued over the advantages and disadvantages of their proposals. This encouraged the team to look at a project from a variety of perspectives. Under the guidance of the team leader, the team eventually developed a common understanding of the best approach. Successful experiences of formal projects were also used in the new product development process.

As the members of this task team were from different departments, the multidisciplinary nature of the task force brought about some long-term benefits for its members. They could join hands with other departments and study with them, get help from them, share knowledge with them. A meeting was held once a week and the task team often engaged in heated debates over cost and reliability. This open discussion among members of a team from different functional groups and across different ages and titles, was the most effective contribution to the success of this project.

As these team members were from middle management, they also needed to communicate with the top management. They were thus informally in constant communication with the heads of the various internal organizations. Once in two months a formal meeting was held and a few top managers were invited to join the meeting. During the meeting the progress of this project, budget issues and some breakthrough points were reported and discussed.

At end of this project, the mini-copier was created and it generated four hundred and seventy patents, three hundred and forty for the new cartridge system alone.

### 3.2.3 Case 3: Sharp – Ba for knowledge creation

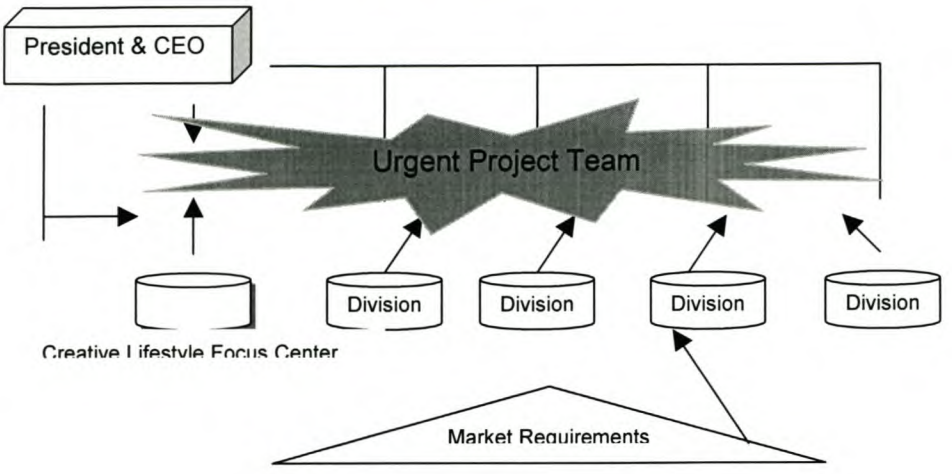
Source: Nonaka and Konno, 1998: 49 – 50.

Sharp has a unique project system that is called the "Urgent Project Team". This project team serves as a Ba (which means place) for knowledge creation at Sharp. Ba can also be thought of as a shared space for emerging relationships.

The members of the Urgent Project Team are selected by the team leader to meet project requirements and represent the organization. Each urgent project has to be completed within 18 months. The middle managers heading the urgent project team have the financial support of headquarters and top priority for resource access. Each division at Sharp will support the Urgent Project Team by making proposal for it. Each proposal is reviewed and approved at the General Technological Conference.

The company has also created a unit called the Creation Lifestyle Focus Center. This center has developed various systems to create new product concepts based on consumers' needs, wants and values. Its knowledge source is from six hundred leading consumers, acting as the outside staff. They range from young children to seventy-year old people and people working in different fields. Every new product concept is reviewed through intensive face-to-face interaction with these outside staff members. The center has collected a large body of high-quality tacit as well as explicit knowledge, that can be used as the Urgent Project Team's knowledge base.

**Figure 3.1: Sharp's knowledge creation Ba**




### 3.2.4 Case 4: Toyota's production system and scientific method

Source: Spear and Bowen, 1999: 97 – 106.

The tacit knowledge that underlies the Toyota production system can be captured in four basic rules. Three rules of the four show how Toyota sets up all its operations as experiments, and one rule describes how Toyota teaches the *scientific* methods to workers at every level of the organization.

1. Rule one: All work shall be highly specified as to content, sequence, timing and outcome.

When a car's seat is installed, for example, the bolts are always tightened in the same order, the time it takes to turn each bolt is specified, and so is the torque to which the bolt should be tightened. Such exactness is applied not only to the repetitive motions of production workers, but also to the activities of all people regardless of their functional specialty or hierarchical role. At Toyota's plants every operator follows a well-defined sequence of steps for a particular job, so it is instantly clear when he or she deviates from the specifications. When deviation occurs, the worker and supervisor can move to correct the problem right away and determine how to specify or retrain the worker to prevent a recurrence.

2. Rule 2: Every customer-supplier connection must be direct, and there must be an unambiguous yes-or-no way to send requests and receive responses.

The second rule shows how people connect with one another. The rule requires creating a supplier-customer relationship between each person and the individual who is responsible for providing that person with each specific good or service. As a result, it is very clear who provides what to whom and when. When a worker requests parts, there is no confusion about the supplier, the number of units required, or timing of delivery. A specific time is also required to respond to a supply request. This rule also suits the worker-assistant relationship. If a worker has a problem in the plant, the designated assistant is then expected to respond immediately and resolve the problem within the worker's cycle time.

3. Rule 3: The pathway for every product and service must be simple and direct.

All production lines at Toyota have to be set up so that every product and service always flow in a simple, specified path. These paths should not change unless the production line is deliberately redesigned. There are also no forks or loops to convolute the flow in any of Toyota's supply chains. This rule does not apply only to products – it applies to services like a help request, as well. If the installer, for example, needs help that also comes from a single specified supplier.

4. Rule 4: Any improvement must be made in accordance with the scientific method, under the guidance of a teacher, at the lowest possible level in the organization.

Toyota explicitly teaches people how to improve – not through the personal experience, but through the scientific method under the guidance of a teacher. At Toyota, OMCD (a training center), teaches workers how to solve problems according to the scientific method. Front-line workers make the improvements to their own jobs, and their supervisors provide direction and assistance. In this way Toyota ensures that problem solving and learning take place at all levels of the company. Engineers are encouraged to obtain standard skills by following scientific methods. They also receive most of their training through intensively direct supervision. Engineers' job rotations are within the same function, they thus gain standard experiences to perform standard work.

As these rules are unwritten, Toyota's managers cannot tell workers and supervisors specifically how to do their work. They use a teaching and learning approach that allows their workers to discover the rules as a consequence of solving problems. It is a continuing questioning and problem-solving process which gives the person increasingly deeper

insights into his or her own specific work. This teaching method is the spirit of the concept of learning by doing.

## 3.3 Relevant conclusions from Japanese corporate case studies

### 3.3.1 Tacit knowledge focus

From these cases it can be deducted that the Japanese are inclined to view knowledge as being primarily tacit. Therefore Japanese corporations are more likely to focus on the sharing and transferring of tacit knowledge.

At Yanagicho tacit knowledge sharing and transferring is through training programmes. On-the-job training programmes are a good example of socialization of knowledge (from tacit knowledge to tacit knowledge). The employees who receive the on-the-job training are assigned to the training supervisors. Supervisors will train them by giving examples. At the beginning, it is very confusing for the pupils and they have many questions. For the supervisors, however, it is easier to give pupils examples than to explain the whole procedure, because this tacit knowledge is rooted in the supervisors' heads and they cannot express it clearly in words. The pupils can only depend on physical experience and the often repeated, imitative practise. After a long time, by following the examples, pupils socialize the supervisors' tacit knowledge into his or hers.

Off-the-job training programmes are a process of both internalization (from explicit knowledge to tacit knowledge) and socialization. The teachers not only give the pupils examples, but also use textbooks. These textbooks are used to broaden, extend and restructure the pupils' own tacit knowledge. Employees not only need to socialize the tacit knowledge of the teacher, but also internalize explicit knowledge from the textbooks. During the training a very important guideline for trainees is that of learning by doing. This principle is equivalent to internalization, which is the conversion of explicit knowledge into tacit knowledge.

Key individuals often play important roles in knowledge diffusion: such knowledge transfer may occur through the skill contest at Toshiba. The champions of the skill contest serve as the intellectual agents. They are invited to other divisions of the organization to share their knowledge by being training supervisors or giving reports. Their tacit knowledge and explicit

knowledge are shared with other employees at Toshiba, which is also a internalization and a socialization process.

At Canon many communication seminars are used to stimulate tacit knowledge sharing and transferring. Knowledge sharing is not limited to the new product development team members, many outsiders who have relevant knowledge are also invited to join a seminar discussion. During the discussion, every member absorbing the shared tacit knowledge so that it becomes his or her own tacit knowledge, is participating in the process of socialization. Simultaneously, tacit knowledge is converted into explicit knowledge by codifying it into a document, a project plan and submitting it to the top management. In this manner new knowledge is created.

In Toyota's case, the tacit knowledge focus is extremely apparent. The important rules which guide the production system, are tacit rules that have not been codified. Supervisors also do not tell the workers specifically how to do their work. Rather, they use a teaching and learning approach that allows the employees to discover the rules as a consequence of solving problems. It is a continuing process which gives the employee increasingly deeper insight into his or her own specific work. Gradually the workers learn to internalize how to design all activities according to these tacit rules.

According to Nonaka and Takeuchi (1995), knowledge is created through the interaction between tacit and explicit knowledge. The two are both important for an organization. Although it seems that Japanese corporations rely more on tacit knowledge creation, it does not mean that they ignore the generation of explicit knowledge. They put effort into the socialization and internalization processes, at the same time they also try to strengthen the combination and externalization process.

### 3.3.2 Knowledge creation

In order to keep a dominant position in the world market, Japanese corporations continuously create new products. The creation of a new product is symbolic of the creation of new knowledge. These corporations also often give the new product development team the best resources. The support given to new product creation reflects how much Japanese corporations treasure knowledge creation.

The mini-copier project team at Canon, for example, had a priority of obtaining different sources of support from different departments. These sources not only included personal support, but also financial support. In such an encouraging environment the new product development team could

create the mini-copier. This new product not only made a profit for Canon, but also accumulated knowledge creation experience for later project teams.

At Sharp the Urgent Project Team has many privileges, among others being able to access any resource support. Different divisions continually submit project plans to it. All the product ideas are tested by outside staff and information about the market comes directly from customers. Therefore new products can continuously be designed and manufactured.

Knowledge creation is a very risky and time-consuming process. Technology-intensive projects are at least four to seven years down the road and it takes three to four years to recover the investment (Fruin, 1997). In a total twelve-year cycle time is needed to create a new technology. Even so, Japanese firms appear to be more willing to make an investment in knowledge creation than American firms and are also more willing to accept incremental developments of knowledge(Brown and Reich, 1996). As a result, Japanese firms may be in a better position to assess the cost-benefit trade-off of the knowledge creation process.

### 3.3.3. Middle-up-down and bottom-up management practices

A bottom-up management practice emphasizes that top management only sets orders, instructions and functions as a coxswain would. The front-line employees decide on the project, make the plans and implement them. Under the middle-up-down practices, middle managers connect both the front-line employees and top management by creating middle–range business and product concepts. They synthesize the tacit knowledge of both top management and front-line employees, make it explicit and incorporated it into new technologies, products and programmes. They are the knowledge bridges (Nonaka and Takeuchi, 1995).

In the case of Toshiba's Yanagicho factory and Canon, it seems that they use different approaches—one is bottom-up and the other is middle-up-down, but they have the same spirit, which is that both corporations use group or consensual decision-making approach.

According to traditional Japanese norms employers must rely upon group discussion and collective problem-solving (Warner, 1992). When problems occur, they are indeed more inclined to reach consensus after discussion. The essence of consensual decision-making is the sharing of knowledge, extensive consultation among group members in the decision-making process and the sharing of responsibility for the decision (Gill and Wong, 1998).

By using the middle-up-down approach at Canon, both explicit and tacit knowledge are converted and shared effectively. The new product development team is also made up of middle management. Many camp sessions and open discussions are held by the team in which member have very intensive discussions on cost saving, part disposability and so on. After the discussions consensus is achieved among members, new ideas become clear, are written down and are submitted to the top management. In this manner knowledge is shared within the organization.

In the case of the Yanagicho factory, the bottom-up approach is employed. Front-line workers form working groups with engineers. They work together and solve different work problems. They share their tacit knowledge through discussions. These intensive discussions are necessary for the creation of new knowledge and new products and are also aimed at ensuring that consensus is finally reached.

In conclusion, eventhough different Japanese organizations use different management practices (middle-up-down vs. bottom-up), they do share similarities. Group decision-making and consensual problem-solving are the bottom line in all Japanese corporations.

### 3.3.4 Knowledge acquired by experience

In the post-war era, Japanese firms long relied on outside partners as a source of foreign technology transfer. Since foreign technology is no longer available nor cheap, enhancing organizational learning and using internal knowledge resources effectively, have become very important for Japanese organizations in order to keep a competitive advantage in the global market (Fruin, 1997).

At Yanagicho the knowledge is mostly generated from within the organization, through internal processes of research design, development and shop floor experimentation. These internal processes contain the factory's most strategic resources and a large amount of tacit knowledge. Moreover, Yanagicho depends on this internal knowledge creation to achieve the success.

At Canon the leader of the mini-copier project team transferred much of the knowledge and experience accumulated during former projects to the mini-copier project. This knowledge and experience helped the mini-copier project team to avoid some mistakes and also improve the efficiency and effectiveness of the team. After the success of the mini-copier project, the knowledge created by the mini-copier development project has subsequently been utilized within the company in a number of important areas:

First the low-cost disposable drum resulted in new technologies that facilitated miniaturization, weight reduction, and automated assembly. These technologies were then quickly applied to other office automation products such as microfilm readers, laser printers, word processors, and typewriters. This was an important factor in diversifying Canon from cameras to office automation and in securing the corporation a competitive edge in the laser printer industry. Secondly, the manufacturing process knowledge gained through the mini-copier project set a good example for the later copier production. Thirdly, the organizational knowledge gained from the mini-copier, especially with respect to the critical role played by middle managers and the importance of working jointly across functional specialization, is reflected in the way Canon is managed today (Nonaka, 1991).

Unlike Western firms that hire and fire people according to their needs, Japanese organizations hire employees directly from their graduation and rarely fire or lay them off, which is the so-called life time employment system. Although the lifetime employment system in Japanese corporation has maintained a favorable performance in employment stability, it also limits exchanging, transferring and transforming assets in the market place. It is impossible for the corporation to sell or buy departments or divisions to attain new knowledge and simultaneously give employees long-term employment. Consequently, full and frequent uses of the available resources – especially the knowledge resource – are emphasized instead.

### 3.3.5. Organisational learning – group level

Knowledge is created by individuals. An organization cannot create knowledge on its own without individuals. It is, therefore, very important for the corporation to support and stimulate individual learning and provide the appropriate environment for them to enrich their knowledge (Nonaka and Takeuchi, 1995). Learning has three levels: individual learning, group learning and organizational learning. Organizational learning arises from a complex interaction of individual and group learning.

**Figure 3.2: Organisational learning in Japanese corporations**

In Japanese corporations particularly the level of group learning is apparent and strong (see figure 3.2). At Yanagicho, for example, employees receive both off-the-job training and on-the-job training. These training programmes offer individual employees an opportunity to improve their skills and boost their knowledge, which is a process of individual learning. Subsequently, these individual employees create new knowledge and this new knowledge is crystallized at the group level through dialogue at group meetings. Through this collective learning, individual knowledge could change into group knowledge and the group knowledge is amplified by the organization by turning it into new products. In this manner organizational learning is achieved.

At Canon peer pressure is utilized to foster individual learning. For example, when an employee is surrounded by his or her colleagues who continuously enhance their learning in order to maintain competitiveness, he or she has to be more diligent and study harder. Through this kind of self-improvement, individual employees renew and upgrade their knowledge. Learning is emphatically pursued at group level at Canon as well. The project team was a learning team. It held meetings away from the workplace and its members shared knowledge with one another through intense discussion. The team members from different backgrounds drew upon their pools of tacit, as well as explicit knowledge, to contribute to the group knowledge. In this manner the level of group learning is developed. The group also used former project groups' working experiences, which also enhanced the level of group learning. When new products are created by teamwork, the organizational learning is also enhanced. It is obvious that group learning or team learning plays a major role in Japanese corporations.

### 3.3.6 Nurturing and loving knowledge

Natural plants need certain ecosystems to grow and develop. Without sunlight, soil, water, and fertilizer, plants cannot even bud. In the mind of the Japanese, knowledge is just like a natural plant in that it also needs an environment in which to grow. Soil, water and fertilizer for natural plants are just like the support given by the organization for the creation of knowledge.

In Japan, people regard themselves as part of the environment, which can be described as a oneness of humanity and nature (Nonaka and Takeuchi, 1995). Natural criteria are used to guide human activity. Ba as used by Sharp, is a good example of how natural criteria are used in knowledge creation.

A Ba (meaning "place" in English) can be thought of as a shared space for emerging relationships. At Sharp a Ba was created for knowledge creation. Ba provides a platform for

advancing individual and/or collective knowledge. It can also serve as the foundation for knowledge creation (Nonaka and Konno, 1998). The Ba was created to nurture and foster love of knowledge creation. Likewise, at Yanagicho and Canon, the best resources and support are used for knowledge creation. In such a friendly environment the creation of knowledge is encouraged and will bear fruit.

### 3.3.7 More knowledge redundancy

Knowledge redundancy is the conscious overlapping of company knowledge, information, business activities, and managerial responsibilities (Nonaka, 1991). Redundancy is very important as it encourages frequent dialogue and communication. This helps the transfer of tacit knowledge. Since members of the work team or organization share overlapping knowledge, they can sense what others are trying to say. For example, at Canon project team discussions the on-going dialogue facilitates communication by giving team members enough opportunities to articulate their ideas.

Redundancy occurs also through training. When training employees and tacit knowledge cannot be articulated clearly, redundancy of tacit knowledge is created by repeatedly giving examples. Without redundancy of knowledge, tacit knowledge sharing cannot be done successfully.

Redundancy also occurs through job rotation as well. At Toyota engineers will be transferred to other departments, but within the same function. The redundant knowledge that engineers gained in other department, encourages them to look at their jobs from a variety of perspectives. Moreover, it also strengthens the standard of work, making the outputs of each functional group predictable to other functions and finally benefiting top management control.

## 3.4 Managerial implications

Knowledge creation and its application are the competitive advantage that Japanese organizations enjoy. Their knowledge management approaches also offer many implications for managers in another countries of the world.

- Within these Japanese organizations, the role of top management has changed to that of provider of resources and supporter, rather than that of commander. The organization has been reshaped in order to serve the needs of its members – particularly their need to communicate with one another. Managers in other countries should put more effort into creating a friendly environment, not only for the creation of knowledge, but also for the knowledge workers, because the success of knowledge creation depends on management's assumption of responsibility, justification, financial backing, and caring.

- According to Nonaka and Takeuchi (1995), knowledge is created through the interaction of both tacit and explicit knowledge. If organization ignores one of the two, new knowledge cannot be created. Although it is much easier to stimulate, combine and communicate explicit knowledge than tacit knowledge, there are a number of situations in which tacit knowledge cannot or will not be converted into explicit knowledge. Achieving the proper management balance between the two is definitely an important task.

- Learning cannot be left to chance. An organization must clearly understand the importance of learning as an objective and seek continuous improvement by offering a more promising environment in which members can learn. This means that managers must encourage their employees to share and develop their knowledge bases with one another to improve performance. Japanese managers use teamwork to help translate individual knowledge and information into a collective knowledge base through the sharing process, which is a very effective way to stimulate knowledge sharing. Japanese managers also realize that it is the tacit dimensions of individual knowledge bases that make such individuals especially valuable contributors to group projects. Managers elsewhere can follow this way to enhance knowledge sharing within their organization by encouraging group learning.

## 3.5 Summary

The objective of this chapter was to introduce the knowledge management approaches of Japanese corporations. In order to fulfil this goal several Japanese corporations were chosen as case studies, namely Toshiba—Yanagicho, Canon, Sharp and Toyota. Analysis showed several characteristics of knowledge management approaches of Japanese corporations:

- Japanese corporations regard knowledge as mainly tacit and they are strong at two knowledge conversions—socialization and internalization.
- Japanese organizations value knowledge creation and always support the best resource for the development of new products.
- Although both middle-up-down and bottom-up management practices exist in Japanese corporations, group decision or consensus decision-making approaches are used in these corporations.
- Since lifetime employment in Japanese organizations limit the possibility of acquiring knowledge from external source, knowledge is acquired internally by encouraging learning and accumulating knowledge experience to create a competitive advantage for them.
- Japanese organizations are in favor of training which offers individual employees various opportunities to improve their knowledge and enhance their learning. By focusing on collective learning (group learning), Japanese corporations have become learning organizations.
- Guided by the tradition of the oneness of humanity and nature, Japanese corporations view knowledge as the plant which needs support, care and love. By giving it the best resources, knowledge creation is prospering in these organizations.
- Japanese corporations focus on tacit knowledge, therefore redundancy of tacit knowledge becomes very critical. Tacit knowledge is difficult to articulate; therefore repeatedly giving the same knowledge can improve the sharing of tacit knowledge.

In the next chapter Western approaches to knowledge management will be discussed and illustrated by case studies.

# CHAPTER 4

# WESTERN APPROACHES TO KNOWLEDGE MANAGEMENT

## 4.1 Introduction

" Oh, East is East, and West is West,

and never the twain shall meet."

Rudyard Kipling, The ballad of East and West (1889), cited by Scarborough 1998: 15

It is a fact of life that the Western and Eastern cultures have to relate to each other in the global business environment. In spite of globalization, there are still large differences between the East and the West and these differences can be found in their respective knowledge management approaches.

Chapter 3 introduced the Eastern way of managing knowledge. Japanese organizations are inclined to focus on tacit knowledge and strive to create new knowledge. In this chapter, Western corporations' approaches to knowledge management are introduced by way of case studies of various corporations. Conclusions drawn from these care studies are presented in a separate section.

For the purpose of this chapter, several corporations were chosen as case studies, namely 3M, Merrill Lynch, American Airlines, IBM, Dow Chemical, Andersen Worldwide, WM-data and Skandia. These corporations' knowledge management approaches are discussed as representing

the West's knowledge management practices. These approaches include the bottom-up management approach, the explicit-focus approach, the knowledge re-use approach and several others. The implications deduced from these case studies are also presented followed by a summary to offer the reader a condensed version of this chapter.

### 4.1.1 Western cultural background

This section offers some background information on Western culture, especially the typical characteristics of both American and Swedish cultures.

The U.S. and Sweden have similar revolutionary and economic development histories and democratic traditions. In both America and Sweden freedom of speech is protected by the constitution, entrepreneurial activities are encouraged, private ownership rights are protected, and individual initiative is highly valued (Souder and Jenssen, 1999).

Swedish history comprises more than 1,000 years and starts after the last glacial period. During the course of its history, Sweden has been substantially influenced by other cultures. The most prominent influences include those of the German and French cultures (The Sweden Information Smorgasbord). Sweden is a country of relatively small class difference which is described by Hofstede (1991) as a small power-distance culture (see chapter 5). Its typical feminine culture also explains the reason for the gender roles in Sweden not differing sharply. Both men and women think that a woman and man should share positions in all areas of social life equally (Hofstede, 1991, 1998).

American culture's key feature is that of individualism (Hofstede, 1980, 1991). This can be understood as all values, rights and duties originating in the individual. The community or society has no value or ethical significance not derived from the individual constituents. Moreover, Americans recognize no a priori allegiance to any high authority, secular or sacred, above the authority of the individual to determine his/her own destiny (Baba, Falkenburg and Hill, 1996). As a result, American culture ranks the highest level of individualism in Hostede's (1980, 1991) cross-cultural survey (see chapter 5).

## 4.2 Managing knowledge in Western corporations: Relevant case studies

### 4.2.1 Case 1: Managing knowledge as a mix of freedom and discipline: 3M

Source: From Desimone, 1995: 183-185.

At the Minnesota Mining and Manufacturing Company (3M), top management is not the focus of attention, but individual inventors and entrepreneurs are. This bottom-up management model represents an antithesis to the top-down management style which emphasizes top-down planning and control.

Like many other corporations, 3M is constantly looking for the right mix of freedom and disciplines. Although 3M wants employees working in the laboratories to explore new products and technologies that seem promising, it cannot let all the researchers spend every hour pursuing whatever delights and intrigues them. 3M also needs to ensure that the company achieves its strategic and financial objectives, one of which is to give shareholders an attractive return on their investment.

In order to unravel this dilemma, a guideline was created. This well-known guideline – unwritten but universally understood – states that 3M's 8,000 researchers can spend 15% of their time working on an idea without approval from management. This 15% principle is called entrepreneurial freedom.

At 3M there are three approaches to developing new products: "Skunk-works" projects (sic), which are spearheaded by employees; traditional development projects, in which managers play important roles to create new products and improve existing ones; and pacing programmes which consist of a small number of products and technologies that it is thought will produce substantial profit fast – usually in two years or less. 3M managers believe that innovation and entrepreneurship come in many shapes and sizes, and supporting entrepreneurial activity depends heavily on management's ability to trust people.

In skunk-works projects, employees are given freedom to choose their own projects, partners, and resources and the way they work. For work purposes, some of them can leave the laboratory and do not need to see the managers for six months at a time, and they may go without a formal review even longer. Usually managers have a good sense of the kind of

problem the researchers are exploring in their skunk-works projects, and they do not oversee these projects in the traditional sense, instead they give more encouragement to these projects.

The managers act as mentor, coach and sponsor. They are there to keep a sharp eye out for individuals who believe passionately in something and to empower them to follow their intuitions. They need to trust the employees and their projects and develop their initiatives and support their ideas. They also need to be very patient and have the vision to differentiate between one-time and mortal failure. The managers create a friendly environment in which the employees feel that they are partners, regardless of the reporting hierarchy.

When managing human resources, 3M managers have special approaches. If it seems that the researchers stopped learning or if their creative energy slows for an extended period, the managers will consider shifting them into an area which they can apply their skills differently.

During different periods, 3M hires different professions who have the knowledge that the company needs, such as if 3M wants to ensure its products are actually rooted in the real world, as they should be, it also hire marketing professionals to test these products.

### 4.2.2 Case 2: Capturing knowledge in systems and software: Merrill Lynch and Andersen Worldwide

**a) Merrill Lynch**

Source: From Quinn, Anderson, and Finkelstein, 1996: 71 – 75.

The core intellectual competence of Merrill Lynch lies in the human experts and the software systems that collect and analyze the knowledge which is relevant to investment decisions. A few financial specialists working at headquarters leverage their own high-level analytical skills through close interactions with other specialists and "rocket scientist" modelers, as well as through access to massive amounts of data about transactions. Proprietary software models and databases leverage the intellect of those professionals, allowing them to analyze markets securities, and economic trends. Software systems then distribute the resulting investment recommendations to brokers at retail outlets. The brokers

create further value by customizing the IT center's advice in order to meet the needs of individual clients.

Roughly 18,000 Merrill Lynch brokers operate out of more than 500 geographically dispersed offices to create custom investment solutions for clients. The typical retail broker is not a highly skilled financial professional with years of advanced training, yet the firm's brokers serve millions of clients worldwide with sophisticated investment advice and detailed up-to-date knowledge on thousands of complex financial instruments. Information systems make this extraordinary leverage possible.

Electronic systems capture Merrill Lynch's aggregate experience and knowledge and distribute this knowledge quickly, enabling less trained people to achieve performance levels ordinarily associated with much more experienced personnel. The firm's computer network thus ensures that the retail brokers' cognitive knowledge is current and accurate.

The IT center of Merrill Lynch captures and distributes information and knowledge to the brokerage about transactions, trading rules, yields, securities features, availability, tax considerations, problems-solving tricks and new offerings. The proprietary software ensures that all brokers adhere to current regulations, make no arithmetic or clerical errors, and can provide customers with the latest market information.

Capturing and distributing the firm's knowledge base through software allows Merrill Lynch to leverage the professional intellect at its core.

**b) Andersen Worldwide – ANet**

Source : From Quinn, Anderson, and Finkelstein, 1996: 76 – 80.

To facilitate knowledge sharing, Andersen Worldwide has developed an electronic system linking its 82,000 people operating in 360 offices in 76 countries. Known as ANet, this network connects more than 85% of Andersen's professionals through data, voice, and video inter-links. ANet allows Andersen specialists – by posting problems on electronic bulletin board and following up with visual and data contacts – to self-organize instantly around a customer's problem anywhere in the world. ANet thus taps into otherwise dormant capabilities and expands the energies and solution sets available to customers.

Problem-solving capacity is further enhanced through centrally collected and carefully indexed subject, customer-reference, and resource files accessible directly through ANet which is distributed to all offices.

### 4.2.3 Case 3: Knowledge re-use: American Airlines, IBM and Dow Chemical

**a) American Airlines**

Source: From Investor Relations Business, 1999: 4

In October 1996 American Airlines sold 18% of its electronic flight reservation system. The reservation system, was basically a large knowledge asset. The computed value showed that the reservation system constituted 60% of American Airlines' assets – far above the worth of its fleet of airplanes.

**b) IBM**

Source: From Investor Relations Business, 1999: 4

In 1993 IBM had tens of thousands of patents it wasn't using. An analyst suggested licensing them and five years later the company was getting $2 billion from patents that had been useless before.

**c) Dow Chemical**

Source: From Cohen, 1998: 26

Dow Chemical screened its 29,000 patents which had been entered into a database in order to determine which should be exploited and by whom, which could be licensed, and which should be abandoned. Their attention to this under-used and partly ignored stock of explicit knowledge has generated $125 million in licensing income and $40 million in savings over ten years.

### 4.2.4 Case 4: Measuring intangible assets and intellectual capital: Skandia and WM-data

**a) WM-data**

Source: Sveiby, 1997: 8-188.

WM-data is the biggest publicly owned Swedish independent computer software and consulting company. WM-data focuses on building corporate knowledge and customer

relations and developing competence. It has pursued a knowledge-focused strategy ever since its founding more than twenty-five years ago.

Much of the international research on measuring intangible assets has used financial variables only. Knowledge and intangible assets are essentially non-financial, therefore financial indicators only are not enough to cover the whole of intangible assets. A system of non-financial indicators has thus been designed at WM-data. There are indicators of growth or renewal, efficiency and stability. Each major indicator can be subdivided into smaller indicators (see table 4.1).

Having six years of experience in using these indicators, WM-data is a pioneer in the field. In 1995, WM-data's annual report indicated that it had divided its intangible assets into three categories:

1. Employee competence: This is also called individual capital, which is cultivated by bringing family members into the corporate fellowship as well as through competence development.
2. Internal structure: This includes WM-data's esprit de corps, competence development, management operations, office furnishings, the special status conferred to consultants, and a feeling of security that comes from working for a stable company.
3. External structure: This is composed of employee ability to establish and maintain good relations with the outside world. Being a maker and upholder of contacts confers high status at WM-data.

**Table 4.1: Indicators that WM-data used to measure its intangible assets**

| Major Indicators | Employee Competence | Internal Structure | External Structure |
|---|---|---|---|
| **Indicators of growth or renewal** | ❖ Number of years in the profession<br>❖ Level of education<br>❖ Training and education costs<br>❖ Grading<br>❖ Turnover<br>❖ competence-enhancing customers | ❖ Investment in the internal structure<br>❖ Investment in information processing systems<br>❖ Customers contributing to internal structure | ❖ Profitability per customer<br>❖ Organic growth |
| **Indicators of efficiency** | ❖ Proportion of professional in the company<br>❖ The leverage effect | ❖ Proportion of support staff<br>❖ Sales per support person<br>❖ Values and attitude measurements | ❖ The satisfied customers index<br>❖ Win/loss index<br>❖ Sales per customer |
| **Indicators of stability** | ❖ Average age<br>❖ Seniority<br>❖ Relative pay position<br>❖ Professional turnover rate | ❖ Age of the organization<br>❖ Support staff turnover<br>❖ The rookie ratio | ❖ Proportion of big customers<br>❖ Age structure<br>❖ Devoted customers ratio<br>❖ Frequency of repeat orders |

**b) Skandia**

Source: Sveiby, 1997a: 181-191, Edvinsson and Malone, 1997: 15-73, Skyrme and Amidon, 1998: 20-24.

In 1994 Skandia, the largest insurance and financial services company in Scandinavia, released the world's first public intellectual capital annual report as a supplement to the financial report. It also takes the lead in developing measures of intellectual capital as practical management tools. At the heart of the Skandia intellectual capital model, is the idea that the true value of a corporation's performance lies in its ability to create sustainable value by pursuing a business vision and its resulting strategy. From this strategy, five navigators are identified (see figure 4.2), and within the five areas of focus, numerous key indicators are used to measure the performance (see table 4.2). At Skandia, its market value is the summation of its financial capital and intellectual capital, while its intellectual capital is composed of human capital, customer capital and organizational capital (see figure 4.1).

**Figure 4.1: Skandia Market Value Scheme**

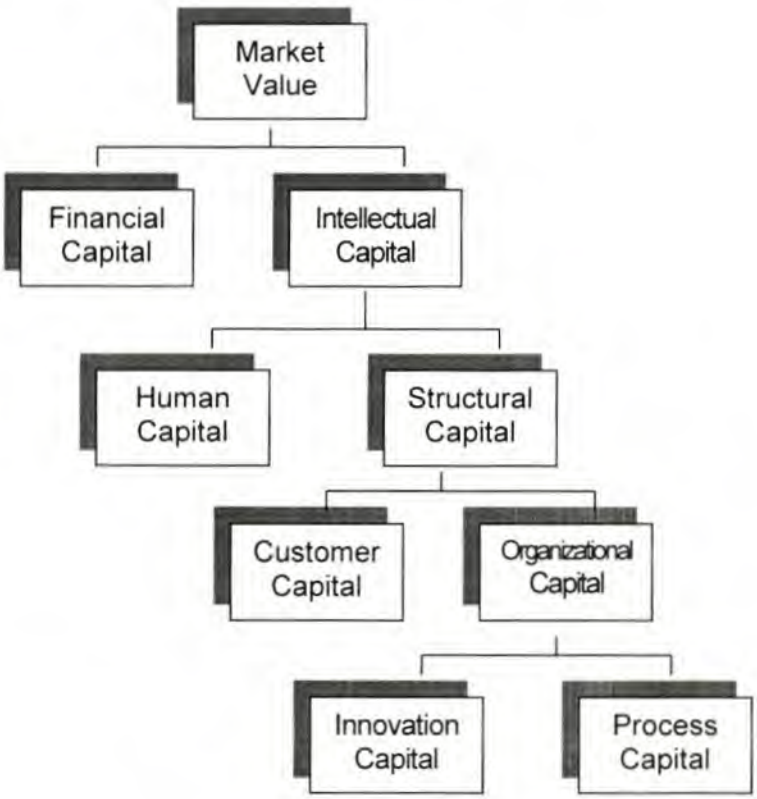
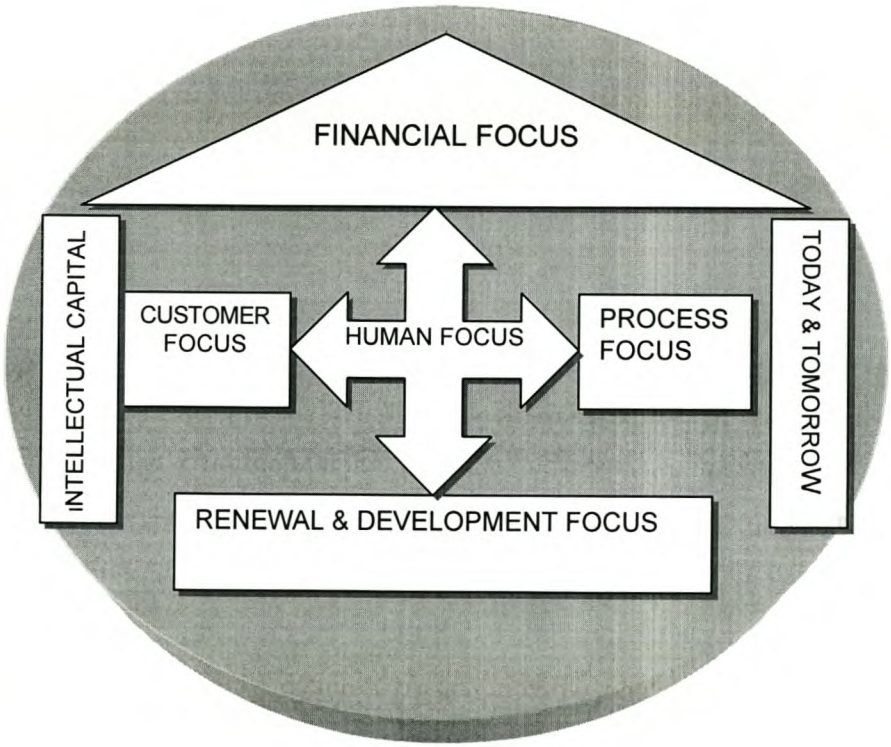


**Table 4.2: Example of measures used in the Skandia Navigator (DIAL)**

| Measure | | 1994 | 1995 |
|---|---|---|---|
| **Financial** | Premium income per employee (SKE' 000s) | 3,856 | 3,592 |
| **Customer** | Telephone accessibility | 90% | 93% |
| | Satisfied customer index | 4.15 | 4.32 |
| **Human** | Training days per year | 3.50 | 6.0 |
| **Process** | IT employees as % of total | 8.1% | 7.3% |
| **Renewal** | Increase in premium income | 28.5% | 31.9% |

**Figure 4.2: The Skandia Navigator**



## 4.3. Relevant conclusions from Western corporate case studies

### 4.3.1 Explicit knowledge focus

Chapter 3 concluded that Japanese corporations are interested in tacit knowledge. In this chapter, the Western corporations which were researched are shown as good examples of Western corporations putting more effort into acquiring explicit knowledge. They are also strong in two knowledge conversion dimensions – combination and externalization.

The exchange of explicit knowledge can usually be done by purely electronic means such as Intranet, Internet, and Email. This is true of Merrill Lynch where computer and software systems are used to capture explicit knowledge of professionals. The financial specialists put their expert knowledge into the computer system which can then be sent to different department and different retail brokers. These specialists codify their tacit knowledge and convert tacit knowledge into explicit knowledge and share this explicit knowledge with other colleagues.

At Andersen the ANet is used to connect 82,000 people operating in 360 offices in 76 countries. This network offers specialists an opportunity to post problems on the company's electronic bulletin board, asking other specialists to help them solve problems. This network enhances explicit knowledge sharing within Andersen. This differs from then Merrill Lynch system in that the ANet is more problem-solving orientated. When a consultant experiences problems, the problems are sent to the ANet, and responses are quickly sent back, instead of utilising a more time consuming link, such as a face-to-face problem-solving meeting, ANet is a quick and efficient way of finding explicit knowledge.

Two knowledge conversion processes are favored by Western corporations. One is externalization and the other is combination. They can be explained as follows: The financial specialists and retail brokers at Merrill Lynch and consultants at Andersen, for instance, mostly share knowledge through electronic means. Since tacit knowledge only exists in human minds, it cannot be shared by using the computer system. Only if this tacit knowledge is converted into explicit knowledge, then can this explicit knowledge be shared through the electronic systems. This is an externalization process. On the other hand, the retail brokers and consultants absorb explicit knowledge from the system, and work on this explicit knowledge. Later they combine discrete pieces of explicit knowledge into a report and hand it to the managers. A combination

process has been completed in which explicit knowledge has been converted into another form of explicit knowledge. In a sense these reports and documents are new explicit knowledge, because they were synthesized from other people's explicit knowledge.

In Western corporations, tacit knowledge sharing among colleagues occurs in more informal ways. When they chat in the tea room or work together in the office, tacit knowledge flows between them. Compared to explicit knowledge sharing, it seems less visible in Western organizations.

In the history of Western culture, the Carthesian dualism has had immense influence on people's thinking. The Carthesian split separates the knower from the known, mind from body. Accordingly knowledge can only be obtained by the mind, without the body's participation (Takeuchi, 1998). As a result of the Carthesian dualism, westerners are uncomfortable with purely tacit knowledge. On the one hand, tacit knowledge cannot be shared or transferred without conversation, emulation, imitation and practise and all these actions are related to the body. On the other hand, explicit knowledge can easily be processed, stored and transmitted by electronic means without practise, imitation and so on. westerners therefore enjoy handling explicit knowledge more.

### 4.3.2 Knowledge re-use

Re-use is the 'Holy Grail' of knowledge-intensive commerce (i.e., regarded as essential to knowledge management), especially in service markets (Demarest, 1997). At Merrill Lynch and Andersen Worldwide, electronic systems are used to store and disseminate benchmark data, market segmentation analysis and other codified knowledge. This allows many people to search for and re-use explicit knowledge without having to contact the person who originally developed it and put it into the system. At Andersen Worldwide a famous economics of re-use is stated as "investing once in a knowledge asset; re-use it many times". At both Merrill Lynch and Andersen the investment in information technology hardware and software is tremendous. Over the past years Andersen Worldwide has spent more than 500 million on IT and people to support the knowledge re-use system ( Hansen et al. 1999). Persons who are well suited to the re-use of knowledge and the implementation of solutions are hired. Training has been changed from face-to-face to computer-based distance learning. Employees are also rewarded for using and contributing to this knowledge-sharing and re-using system. All of these open up the possibility

of achieving the goal of knowledge management which focuses on aggressively exploring the use of knowledge.

In the case of American Airlines and IBM, both corporations sold their knowledge reserve which gave them a large amount of extra revenue. Every year IBM generated tens of thousands of patents which were not used and could not generate profit. The sales of these patents not only generated returns from the sale, but also encouraged intra-organizational knowledge sharing. Dow Chemical also generated income by licensing old patents whose value had not been exploited. These corporations obtained benefits from the re-using of existing knowledge.

Peter Drucker (1993) has said that today's knowledge is tomorrow's ignorance. Trying to exploit the organizational knowledge base is therefore more efficient in a certain sense than simply creating knowledge without using this knowledge fully.

### 4.3.3 Top-down and bottom-up management practices

In Frederick Taylor's eyes, the firm is a big machine that is constituted by small machines (employees). The top managers' responsibility is to control these machines, not only the big ones but also the small ones (Warner, 1995; Nonaka & Takeuchi, 1995). Top managers are the commanders who collect information and knowledge and this knowledge is sent to the frontline workers through the hierarchical process. Managers are the knowledge agents who disseminate their explicit knowledge, commands and project plans to frontline workers.

Today, everyone in the business world realizes that one of the keys to long-term competitiveness is employee satisfaction. Consequently, bottom-up approaches are employed. 3M is, for example, famous for its bottom-up management practice and the researchers can spend 15% of working hours doing what they like doing. Every researcher works independently.

However, no matter whether it is top-down or bottom-up, individual decision-making is the essence of the management approach in Western corporations. In the top-down corporations, one powerful manager would make most of the decisions. Other managers often serve as information suppliers. In the bottom-up corporations, individual employees have more flexibility to decide what they want to do, just as the researchers at 3M have freedom to stay or leave the laboratory or even not see the manager for a long time. The relationship between the researchers and managers is very loose. Individual researchers create knowledge, while the manager's job is to arrange meetings or cross-department conferences to promote the knowledge to be shared.

The question can be asked: Why does the individual have such a significant influence on the decision-making in Western corporations? The answer can only been found in the culture. This issue will be discussed extensively in chapter 5.

### 4.3.4 Acquiring external knowledge

Western corporations' knowledge acquisitions have a very strong external focus. The corporations deliberately scan the external environment for new ideas and new practices and knowledge workers are also part of their focus.

Unlike Japanese corporations which use lifetime employment, Western firms hire and fire employees according to their needs. Both employees and employers have much flexibility to choose each other and company assets can be easily exchanged – transferred in the market place. As a result of the high labor mobility, training of employees is not as active as at Japanese corporations, because firms cannot recover the costs of education and training. On the other hand, the workers have little incentive to receive non-transferable education and training, because these skills may not be used when they move to other corporations. All of the above could result in corporations choosing not to give training or very little training to their employees.

When an organization needs certain knowledge, it hires professional people who have knowledge. When 3M needs marketing people, it immediately hires marketing professionals. When it needs stellar scientists, it searches for them. It is interesting that at 3M a personality profile was created with the characteristics that innovators share in common. This questionnaire was developed for candidates interviewing for technical positions in order to find creative and innovative employees.

In corporations where there is such a flexible situation, attracting knowledge workers from the labor market and having them stay in the organization longer has become a growing concern of organizations. How to make an amenable environment for those prospective employees, is a question that needs to be answered by Western corporations.

Western corporations also actively seek collaboration with outside organizations by forming strategic alliances and merging. North American corporations often buy or sell companies or divisions as a means of obtaining new technical capabilities, rather than developing and managing them themselves. In such an environment new technologies tend to be short-changed. In Europe, corporate acquisitions and take-overs occur less often than in North America, partly because recognition of employee rights is more important than shareholder rights (Fruin, 1997).

### 4.3.5 Managing and measuring knowledge

European corporations have been international leaders in measuring knowledge, while American corporations have often been cited as the leaders in managing knowledge effectively (Takeuchi, 1998).

In Europe, especially in Scandinavia, Swedish corporations such as Skandia, and WM-data, which have been mentioned in the case studies, have taken the lead in developing measuring systems for their intangible assets or intellectual capital.

Sveiby (1997) identified two main purposes for measuring knowledge and two main parties interested in the results: In an external presentation (such as annual reports), stakeholders, customers, creditors, and shareholders are interested in the quality of the management, they can assess whether the organization is likely to be a reliable supplier or a dependable creditor by reading the annual report in which the company describes itself as accurately as possible. An internal measurement is under taken for management who needs to know as much as possible about the company so that they can monitor its progress and take corrective action when needed. It therefore provides a management information system.

In order to satisfy the stakeholders, customers, creditors and shareholders, these Swedish corporations' annual reports not only include the result of measuring financial capital, but also the non-financial capital – intellectual capital or intangible assets. At WM-data the intangible assets were categorized into three parts: employee competence, internal structure, and external structure. Efficiency, stability and growth were use as the indicators. These major indicators can have subgroup indicators, such as level of education for employee competence, investment in the internal structure for internal structure and organic growth for external structure. While five navigators (financial focus, customer focus, human focus, process focus and renewal & development focus) were identified at Skandia, many other indicators are used to measure the effectiveness of the organization at these five focus areas.

Intangible assets are the hidden values of the organization and the non-financial capital. Existing accounting mechanism with their historic financial orientations, do not fully account for intangible assets. Intangible assets and intellectual capital therefore cannot be measured fully by financial indicators. In order to solve this problem, WM–data employed a series of non-financial indicators and at Skandia non-financial indicators are also the main focus when measuring intellectual capital. Other corporations, including Dow Chemical, CIBC, and Hewlett–Packard also follow this trend.

Although what is measured in corporations is what is managed, what is measured is not always important and what is important cannot always be measured. (Roos and Roos, 1997). Continually developing better measurement systems has therefore become a central concern. On the other side of the world American corporations have taken the lead in managing knowledge effectively. The best practices mostly come from consulting firms. Knowledge, in the view of many Western consultants, is not only the products of the corporation, but also the core asset. At Andersen Worldwide, the knowledge products have been well documented and managers keep the knowledge as explicit as possible. They have also developed numerous ways to codify, store, and re-use knowledge, such as the "people-to-documents" approach which encourages employees to convert their tacit knowledge into explicit knowledge (Hansen et. al., 1999). ANet was also one of the facilitating tools used to capture explicit knowledge and enhance explicit knowledge sharing and re-using.

### 4.3.6 Organizational learning – individual level

As mentioned before, organizational learning arises from a complex interaction of individual and team learning skills and is mostly based on individual learning. Individual knowledge workers gain experiences in the way they work and use these experiences to improve work processes. Through individual learning, new knowledge is developed and, to some extent, integrated into the organizational processes and then applied.

**Figure 4.3: Organizational learning in Western corporations**


Western corporations have a very distinct nature of organizational learning, which is very apparent at the individual level, but the group or team learning is less visible (see figure 4.3). At 3M different researchers work independently and do not form working groups. If the individuals continually learn and hand in reports to managers, the organization benefits from individual learning. The individual learning of the researchers therefore becomes organizational learning and is the direct result of the organization amplifying the individual researchers' work. At

Andersen Worldwide face-to-face training has been replaced by long distance computer-based training and employees therefore have to study independently.

Often articles mention that Western managers wonder how to encourage knowledge sharing among professional knowledge workers. When knowledge workers work in groups, managers often have trouble getting the knowledge shared and flowing effectively, and these knowledge workers respond very slowly to the knowledge sharing. Since knowledge is the knowledge workers' competitive weapons, they are often not willing to share their advantage with others. In order to solve this problem, individual learning is largely encouraged by managers. Consequently, much group learning is not taking place and is often ignored by individual knowledge workers.

## 4.4 Managerial implications

Western organizations use many different knowledge management approaches. The following implications are draw from these practices:

- Knowledge is not timeless, or lifeless. It is vital and volatile. This characteristic was recognized by Western managers. They attempt to re-use the knowledge as much as possible. This is a very good indication for managers in Eastern corporations. They also need to realize this fact and aggressively use knowledge if they wish to keep a competitive edge.
- In this knowledge age, a company's survival depends on its ability to capture intelligence, and transform it into usable knowledge. As tacit knowledge has the disadvantage of having to be stored and transferred, explicit knowledge should be developed to neutralise this disadvantage. For example, thousands of engineers fix machines at IBM. They are constantly learning the tricks of the trade. If these tricks (tacit knowledge) can be put into the computer system and passed onto new employees, that will be IBM's most valuable asset.
- Every employee should have access to information in order to transfer information into knowledge. Employees who identify new business ideas should be protected and rewarded. Proposals should move quickly through the approval process.

## 4.5 Summary

The objective of this chapter was to introduce knowledge management approaches of Western corporations. In order to fulfil this goal, several corporations were chosen as case studies. These corporations are 3M, Merrill Lynch, Andersen Worldwide, IBM, Dow Chemical, American Airlines, Skandia and WM-data. Analysis showed several characteristics of the knowledge management approaches of Western corporations:

- Western corporations favor explicit knowledge and they are strong at two knowledge conversion dimensions – combination and externalization.
- Western corporations are more inclined to focus on the re-use of explicit knowledge. By re-using explicit knowledge they enhance the efficiency and effectiveness of the organization.
- Both top-down and bottom-up management approaches are used in Western corporations, but individual decision-making is the essence of the practices. Individual knowledge workers and individual managers play a critical role in knowledge management practices.
- Western corporations' knowledge acquisitions have a very strong external focus. Since the corporations are not limited by lifetime employment, they can hire or fire employees according to the need for new knowledge. They often buy or sell part of one company in order to gain new knowledge.
- Western corporations view knowledge as products which need to be managed and measured.
- Organizational learning in Western corporations is apparent at individual level and less visible at group level. Managers also like to encourage individual learning.

The next chapter (chapter 5) provides a comparative analysis of national cultural influences on knowledge management approaches in Western and Eastern corporations.

# CHAPTER 5

# A COMPARATIVE ANALYSIS OF CULTURAL INFLUENCES ON KNOWLEDGE MANAGEMENT APPROACHES

## 5.1 Introduction

Human societies have existed for many thousands of years. During these years different food systems developed, different religions arose, different professions formed, and different nationalities emerged. Moreover, different societies follow different rules and develop to different extents. All these differences are called cultural differences.

The origins of the differences between nations are hidden in history. These differences are shaped by many complex historical and environmental factors. Small differences arose hundreds or thousands of years ago, and these differences were transferred from generation to generation. Consequently, these small differences grew larger and larger, until they became as large as they are known today – national cultural differences. (Hofstede, 1994)

In recent years, national cultural influences on management approaches have received much attention (see e.g. Hofstede, 1991, 1994; Schneider, 1989; Hambrick and Brandon, 1988). This research has showed that both organizations and managers are culture bound. Under different cultures managers use different approaches to manage organizations. Likewise, knowledge managers of different cultural backgrounds use different knowledge management approaches.

Based on the analysis of Japanese corporations' knowledge management approaches (chapter 3) and Western corporations' knowledge management approaches (chapter 4), this chapter is to provide a comparative analysis of the influences of national culture on the knowledge management approaches in Western and Eastern corporations. Firstly, based on critical analysis of all the relevant literature, Hofstede's five dimensions is the most relevant resource, therefore these five dimensions are introduced and used as the main discussion points for comparative analysis between knowledge management approaches of the Western and Eastern corporations.

Secondly, the cultural roots of these differences are presented in this chapter, which result in different approaches to knowledge management in Western and Eastern corporations. Finally, the managerial implications and summary of the issues deducted in this chapter are given.

## 5.2 Analysis of Hofstede's five dimensions as a basis for comparison of Eastern and Western knowledge management approaches.

### 5.2.1 Basic principles of national culture

Before discussing cultural influence on the knowledge management approaches in Western and Eastern corporations, it is necessary to describe the basic ideas about culture. Many scholars have produced hundreds of definitions of "culture", of which Hofstede's are perhaps the best known:

"(Culture is) the collective programming of the mind which distinguishes the members of one group or category of people from another" (Hofstede, 1980: 260).

"The national culture is the collective programming of the mind dominant in this country"(Hofstede, 1994: 4).

According to the above definitions, the first point raised is that a culture is particular to one social group and not others. This means that different social groups have different cultures and different social groups may respond to similar situations in different ways. The second point that arises is that culture influences the behavior of members in uniform and predictable ways. The third point is that culture is not inherited, but learned. In the case of a national culture, people learn most intensively in their early years of lives (Mead, 1998).

Hofstede's cross-cultural research began with a major data collection project between 1967 and 1973 involving questionnaire responses by 116,000 IBM employees in over 72 countries. The data from 50 individual countries and 13 regions were analyzed and it was discovered that there were differences in four dimensions, i.e. power distance, uncertainty avoidance, individualism vs. collectivism, and masculine vs. feminine.

As the IBM research was dominated by the Western ways of thinking, a cultural bias existed. In the late 1980s a Chinese value survey found a fifth dimension. It is called Confucian dynamism.

This dimension was added to the four dimensions and was renamed "long-term vs. short-term orientation".

### 5.2.2 The large vs. small power distance dimension

Power distance was defined by Hofstede (1994) as the degree of inequality among people which the population of a country considers as normal: from relatively equal (that is, small power distance) to extremely unequal (large power distance). In the small power distance countries there is a limited dependence of subordinates on bosses, and a preference for consultation, that is, interdependence between boss and subordinate. The emotional distance between them is relatively small – subordinates will quite readily approach and contradict their bosses. The two sides consider each other as existentially equal.

In large power distance countries, superiors and subordinates consider each other as existentially unequal. There is considerable dependence of subordinates on bosses. Subordinates are expected to be told what to do, which is a type of dependence, but with a negative sign. Large power distance countries show a pattern of polarization between dependence and counter-dependence. The emotional distance between subordinates and their bosses is large – subordinates are unlikely to approach and contradict their bosses directly (Hofstede, 1991,1994).

### 5.2.3 The high vs. low uncertainty avoidance dimension

Uncertainty avoidance was defined by Hofstede (1994) as the degree to which people in a country prefer structured over unstructured situations. The structured situations are those in which there are clear rules as to how one should behave. A society with strong uncertainty avoidance can be called rigid; one with weak uncertainty avoidance is called flexible.

In countries with strong uncertainty avoidance, there are many formal laws and informal rules controlling the rights and duties of employer and employees in the work place. There are also many internal rules and regulations controlling the work process. People in a strong uncertainty avoidance culture, arrange things carefully and structurally. In countries with weak uncertainty avoidance, there are fewer rules and regulations and people prefer unstructured work. The anxiety levels are relatively low here and the people like surprises (Hofstede, 1980,1991,1994).

### 5.2.4 The individualism vs. collectivism dimension

Individualism is the degree to which people in a country prefer to act as individuals rather than as members of groups (Hofstede, 1994). The opposite of individualism is collectivism. In an individualism culture, the ties between individuals are loose; everyone is expected to look after himself or herself and his or her immediate family. Collectivism is the directly opposite society, people are integrated into strong, cohesive in-groups, which continue to protect them throughout their lifetime in exchange for unquestioning loyalty. In an individualism culture, employees are expected to act according to their own interest. In the collectivist culture an employer never hires just an individual, but a person who belongs to an in-group (Hofstede, 1991).

### 5.2.5 The masculinity vs. femininity dimension

Masculinity and femininity are the degree to which values like assertiveness, performance, success and competition, which in nearly all societies are associated with the role of men, prevail over values like the quality of life, maintaining warm personal relationship, service, care for the weak, and solidarity, which in nearly all societies are associated more with the role of women (Hofstede, 1994).

In feminine cultures, there is a preference for resolving conflicts through compromise and negotiation. People tend to be modest and feel solidarity with one another. Organizations in such societies are likely to reward people on the basis of equality. In masculine societies, people tend towards assertiveness, ambition, and competition. The organizations in this society stress results and reward them on the basis of equity. In feminine societies both men and women may or may not be ambitious and there is no distinctive gender difference.

The masculine manager is assertive, decisive, and aggressive. He is a lonely decision-maker looking for facts rather than being a group discussion leader. The manager in a feminine culture is less visible, intuitive rather than decisive, and accustomed to seeking consensus (Hofstede, 1991).

### 5.2.6 The long-term vs. short-term orientation dimension

Confucian dynamism is also called long-term orientation. The word Confucian does not mean that this new dimension is only relevant to Eastern countries. It is also able to answer questions from Western countries.

In long-term orientation culture, such as the south east Asian countries, people are tolerant of slow results. Westerners on the other hand prefer quick results. In the West, truth is considered more important than virtue, but in the East virtue is more important than truth. Westerners are good at analysis which benefits science, while easterners prefer synthesis which is the basis of management and government (Hofstede, 1991)

**Table 5.1: The five cultural dimension values for 3 countries**

| Country / Dimension | **Japan** | **USA** | **Sweden** |
|---|---|---|---|
| Power distance | 54 | 40 | 31 |
| Individualism | 46 | 91 | 71 |
| Uncertainty Avoidance | 92 | 46 | 29 |
| Masculine | 95 | 62 | 5 |
| Long-term focus | 80 | 25 | 33 |

Source: from Hofstede, 1991: 26-174. All numbers are on a 100-point scale.

From this table it can be seen that Japan attains a relatively high score on power distance, indicating the unequal power distribution among the Japanese. Individualism is not encouraged in this society. The high score in uncertainty avoidance shows this country prefers rules and regulations in both the workplace and social life. The high masculine score indicates that Japan is a male-dominated society. A high ranking on long-term focus reflects values orientated towards the future.

America and Sweden, which represent the Western world, rank medium to low on power distance. This shows that Western people are more inclined to accept equal power distribution. The low uncertainty avoidance score indicates the higher tolerance for unpredictable events. Compared to America, Sweden is a typically feminine country, which explains why male and female roles in Sweden do not sharply differ from each other. The high score for individualism in both the U.S.A. and Sweden reflects the tendency of people in these countries to value self-interest above group interest. Both America and Sweden are short-term focus cultures, which means that these two countries value present or near term profit more than future profit.

## 5.3 Comparative analysis of the cultural influences on knowledge management approaches in Western and Eastern corporations.

In this sections, based on the analysis of chapter 3 and chapter 4 a comparative analysis of the cultural influences on Western and Eastern knowledge management approaches are conducted. Each of these areas (see table 5.2) of differences are subsequently discussed.

**Table 5.2: Differences between Western and Eastern knowledge management approaches**

| Eastern approaches to knowledge management | Western approaches to knowledge management |
|---|---|
| Tacit knowledge focus | Explicit knowledge focus |
| Socialization and internalization | Externalization and combination |
| Middle-up-down and bottom-up<br>Group decision-making | Top-down and bottom-up<br>Individual decision-making |
| Acquiring internal knowledge | Acquiring external knowledge |
| Relatively more knowledge redundancy | Relatively less knowledge redundancy |
| Organizational learning(group level focus) | Organizational learning(individual level focus) |
| Nurturing and loving knowledge | Managing and measuring knowledge |
| Knowledge creation | Knowledge re-use |

Source: adapted from Nonaka and Takeuchi, 1995: 199; Cohen, 1998: 24

### 5.3.1 Tacit knowledge focus vs. explicit knowledge focus

Hall (1987) categorizes world culture into two types: high context culture and low context culture. In high context societies, such as Japan, what is written down is secondary to what is said or even what has been implied (Hall, 1987). Moreover, the communications between people mostly rely on silent language, such as body movement, facial expression, eye contact, and other nonverbal signals. High context cultures fully exploit the communication context:

> "The Japanese talk around the point. (They) think intelligent human beings should be able to discover the point of discourse from the context, which they are careful to provide." (Hall, 1983: 63 cited by Mead, 1998:29)

In Japan the physical surroundings, the manner of delivery, the situation, and the nature of the issue at hand are all an integral part of the communication process and serve to impregnate it with information. Although this information is not explicit, it is understood within the culture, since people are accustomed to practising implicit communication. As a large amount of contextual information is required to understand social situations, it is difficult for outsiders to correctly assess and interpret social circumstances (Fatehi, 1996). If outsiders do not understand the cultural background, and are not familiar with the hidden information and unspoken signals, misunderstanding is common.

Western countries, like America and Sweden, on the other hand, have a low context culture. In these low context societies, communication is explicit; thus the written agreement is valued over an implicit understanding (Paik and Tung, 1999). Communication among people is more direct and also conveys most information explicitly through the message itself. Moreover, these low context cultures (less cultural complexity) are more explicit and overt in communication and social interaction. All messages must be made explicit, unambiguous and specific, and the senders cannot depend on non-verbal communications codes (Hall, 1987).

In its high context culture, Japanese managers are inclined to focus more on tacit knowledge, although the subjective and intuitive nature of tacit knowledge makes it difficult to process, or transmit the acquired knowledge in any systematic or logical manner (Takeuchi, 1998). Since people are accustomed to implicit communication, they do not find tacit knowledge sharing difficult, although implicit communication needs specific context, body movement, etc. An example is the tacit rules at Toyota which can exist without being codified or articulated in this

high context culture. Since employees are highly sensitive to tacit knowledge, they can easily sense these tacit rules by spending time working with senior colleagues.

On the other hand, Western approaches are inclined to focus on explicit knowledge, which can be easily processed by computer, transmitted and stored through different electronic means such as Internet, Email, and Intranet. Low context cultures require a direct and forthright means of communication. People also believe that the more explicit the knowledge, the better it is. Organizations in these countries typically have more explicit knowledge management strategies, programmes, or activities. For example, Andersen Worldwide and Merrill Lynch in America use their computer systems to capture explicit knowledge. Through the computer network employees share their explicit knowledge directly.

In conclusion, Eastern culture, such as the Japanese culture, is a high context culture, while Western culture is a low context culture. Tacit or explicit knowledge focus is determined by the high or low context of the national culture.

### 5.3.2 Socialization and internalization vs. combination and externalization

Firstly, a high vs. low context culture determines the knowledge conversion process in both Western and Eastern corporations.

In their high context culture, easterners have a deeper and more profound understanding of tacit knowledge than westerners do (Wiig, 1997a). Two knowledge conversions (socialization and internalization) which are strongly related to tacit knowledge, are also often used in Japanese organizations.

In Eastern culture, body and mind are regarded as a unity. In China there is an old saying: After having read one thousand books, you need to travel one thousand miles. This means that what you learn from books, needs to be practised by the body. What you have studied is only then changed into true knowledge. In Japan managers likewise like to emphasize the importance of learning from direct experience (Nonaka and Takeuchi, 1995). Since easterners believe that tacit knowledge is rooted in action and learning is done from doing, people need to use both their bodies and minds to obtain knowledge. For instance, teachers teach students by giving examples, the students acquire knowledge through watching and thinking, but most importantly through practising. Knowledge can be spread, without being articulated, through example, observation, imitation, and emulation. Socialization is a process in which tacit knowledge is converted into tacit knowledge and in this process the body and mind both need to work together. On the other

hand, internalization is a process in which explicit knowledge is converted into tacit knowledge and in which body also has a critical function.

The Western way of managing knowledge is more inclined to focus on explicit knowledge, which is direct, clear and easy to capture, store and share. Two knowledge conversion processes — externalization and combination – which are strongly related to explicit knowledge, are more popular in Western organizations. Differing from Eastern culture, Western culture is dominated by the Carthesian dualism which argues that the ultimate truth can be deduced only from the real existence of a "thinking self" (Nonaka and Takeuchi, 1995). This means that learning depends only on the mind. Since tacit knowledge is rooted in action, westerners do not like to deal with it. They prefer to practise the externalization and combination of explicit knowledge, which only relate to a thinking self.

Secondly, labor mobility in Western countries makes the socialization and internalization of knowledge more risky than the other two knowledge conversion processes.

In Western countries where corporations do not use life-time employment, both employer and employees have the opportunity to choose each other and it is thus very possible that the knowledge worker, who controls core technology (knowledge), could leave the company some day. Moreover, the experiences of employees are the different lessons learned about the job, the workplace and with other people (colleagues, customers, competitors etc.). These experiences and intelligence become usable knowledge. Nevertheless, once an employee leaves the company, these experiences are gone. In order to capture this tacit knowledge, many corporations encourage knowledge workers to record their knowledge on paper, or in a computer, to prevent unexpected loss in future (Geisler, 1999). Explicit knowledge can then be kept as assets of the corporations, which is the reason for Western corporations preferring externalization and combination of knowledge.

In Japan labor mobility was replaced by life-time employment and seniority-based pay and promotion. These two systems have been entrenched in Japanese social life and have become part of the Japanese culture. Life-time employment means remaining on the payroll, but not necessary in a particular job, or even in a particular plant, for the whole of one's working life (Gill and Wong, 1998). It can be better understood as lifetime commitment, rather than lifetime employment (Beardwell, 1994). Lifetime employment can foster stability and a sense of belonging and commitment to a company. On the other hand, the seniority system requires regular pay increases and career advancement according to age and length of service with the

organization (Gill and Wong, 1998). This system encourages employees to stay in one company as long as possible.

Both lifetime employment and the seniority system influence the organizations and provide a stable environment for both employee and employer. This is a very good environment for tacit knowledge sharing. Since employees need to stay longer to get more pay and promotion, they stay in one company longer to obtain the rewards. As a result, professional people get enough time to share their tacit knowledge with new employees by giving them face-to-face training. Since managers do not need to worry that knowledge workers who provide core knowledge will be leaving the company, they do not force these workers to codify their tacit knowledge.

Thirdly, a collective vs. individualism culture also determines the knowledge conversion process utilised in the West and East.

In Japan, corporations often conduct an entrance ceremony for new employees. In this ceremony parents transfer parts of their duty to their children on to an employer. The duties of children to their parent are superimposed on the employee-employer relationship immediately after graduation from college. At the ceremony the employees are already prepared to make personal sacrifices for the company (Meek, 1999).

This is a good example to show that a collectivism and large power distance culture are deeply rooted in Japan. The power distance between teachers and students, parents and children, superior and subordinates is large, resulting in employees respecting their training superiors. They have to study hard to attain the supervisor's tacit knowledge and thereby show their respect to the supervisor. For the supervisors and other professional knowledge workers sacrifices for the company are more important than individual benefits, although knowledge and experience are their competitive advantage in a collectivism culture. As a result, tacit knowledge sharing through internalization and socialization is mostly used.

Fourthly, a high vs. low uncertainty avoidance, large vs. small power distance, and long vs. short-term focus also influence managers' choice of a knowledge conversion process.

High uncertainty avoidance is another cultural characteristic of Japan. The highly structured and organized character of the long-term training programme system has been created to facilitate tacit knowledge conversion and sharing. In the tacit knowledge sharing process there are many uncertainties, therefore structured programmes can help eliminate these uncertainties. During the daily work, different rules are also used to prevent uncertainties from occurring. For example, at Toyota the car seat installation requires every bolt to be always tightened in the same order, the

time it takes to turn each bolt is specified, and so is the torque to which the bolt should be tightened. Such a well-defined sequence of steps can guarantee product quality.

Differing from the Japanese, Western countries have a small power distance and low uncertainty avoidance, and a high individualism culture. These are reflected in the workplace, in that, for instance, on-the-job training is usually unstructured. An employee does a job without having a designated trainer and usually without materials or a plan for certification. The small power distance culture advocates that people are equal, therefore the inexperienced employee is expected to ask co-workers if a problem or question arise (Brown and Reich, 1997). Since an individualism culture encourages self-serving behavior, when encountering problems, inexperienced employees are still encouraged to try to solve them by themselves first. Explicit knowledge sharing does not need collective work, and with less uncertainty, Western organizations consequently prefer externalization and combination of knowledge.

Studies reveal that societies differ in their attitude towards time. All cultures deal with the past, present, and future dimensions of time, but the preferential rank order of these dimensions of time may vary across cultures (Kluckhohn and Strodtbck, 1961). In recent years the notion that Japanese managers are more long-term orientated than Western managers, has received a great deal of attention (see e.g. Hofstede, 1991, 1994; Beldona, Inkpen and Phatak, 1998). According to these researches Eastern culture is more long-term orientated than Western culture. This is reflected in Japanese managers spending more time encouraging knowledge internalization and socialization which need more time than the other two types of conversions. However in the mind of westerners (especially the Americans), time is money and present value is more important than future value. Moreover, Western culture more prefers direct and short-term benefits, therefore they choose externalization and combination to share knowledge.

### 5.3.3 Bottom-up and middle-up-down management practices vs. bottom-up and top-down management practices.

In Japan individual duty and collective obligations encapsulate the spirit of the relationship between colleagues. In the workplace, job satisfaction comes more from a sense of contribution to a group effort than from task competence and achievement. Japanese business emphasizes consensus and harmony among workers. Group decision-making meetings are carried out in all types and levels of Japanese business organizations (Takagi, 1998).

Meek (1999) described the collectivism culture of Japan as following:

> "Dependence is cultivated not only by indulgent parental behavior, but also through the use of socialization techniques and disciplinary methods. The objective is to create intense fear and distrust of people outside one's primary social group, as well as an extreme fear of being separated from or rejected by one's significant others. Thus the relationship between employers and employees is truly a social contract, and emotionally powerful moral agreement, bound by filial piety and absolute loyalty in return for an unbreakable pledge of support." (Meek, 1999: 30-31)

Although both Western and Japanese corporations use bottom-up management approaches, the two have essential differences. Japanese focus on the group level, while Western corporations focus on the individual level. Since the collectivism culture regards individualism as selfish and inhuman, employees in Japan need to work as groups and individual achievements belong to the group. From the front-line working group to the top management, all final decisions must arise from group discussions and group consensus. This tradition stems from the Japanese belief that no single individual is likely to know all aspects of a company's functions sufficiently to make decisions unilaterally (Paik and Tung, 1999).

Western people are more individualistic and hence used to operating on their own. Western culture emphasizes egotism tremendously, and decisions are typically made autocratically by individuals. Group level work also places individual benefit first. In a top-down approach, a certain top manager is the center of decision-making. He or she makes almost all the decisions even without the full consensus of the decision group members. In a bottom-up approach one can also find different employees working independently. Individual decisions are valued over and above group decisions, and the individual has a right to harbour thoughts and opinions that differ from those held by the majority. A manager aims for variety rather than conformity in work.

In conclusion, collectivism culture in the East determines that group decision-making is the management focus, while the individualism culture determines that individual decision-making is the management focus.

### 5.3.4 Acquiring internal knowledge vs. acquiring external knowledge

In Japan, acquiring knowledge depends largely on the accumulation of internal company experience, because life-time employment prevents the company from continually renewing its employees. Moreover, Confucian ethics which stress the value of contribution to the group and corporation, and paternalism, create a climate in which firms that are strongly committed to their employees, receive dedication from them in return (Lee and Lee, 1994). In this culture, corporations cannot disappoint employees by firing anyone. In the early 1980s, for example, the strong Yen forced Pioneer to be the first company to use "American style layoffs" to downsize the work force in order to reduce costs and keep its market share. Later it nearly lost all its customers, suppliers and sources of finance in Japan, because such an anti-traditional way of doing things angered the nation (Meek 1999). Therefore the only way to make good use of the human resource, is by encouraging the creativity and innovativeness of employees. In order to get new knowledge, managers need to continuously create good climate for individual and group learning and offer various training opportunities for employees to renew themselves. Then the working experiences from the old employees are accumulated and become the company's assets stored or shared within the company.

In the Western culture, a company would want to exploit employees' ability and wisdom. When employees lose their creativity or wisdom, corporations attract other professionals to work for them. When the company needs new core technology, people who control knowledge are the target of the company. The Western way of employment has much flexibility that not only puts pressure on employees, but also on managers.

Time is also viewed differently in different cultures. Eastern culture is focused on the long-term results, while Western culture prefers short-term results. Employee training and experience accumulations, which are an internal knowledge source, are long-term investments. For a long-term orientation culture, such as Japan, it is the norm to patiently wait for future profit. This high uncertainty avoidance culture also requires long-term training to prevent uncertainty from occurring in the sharing of tacit knowledge. Since there are numerous situations in which tacit knowledge cannot or will not be easily shared and transferred, long-term face-to-face contact is the only way to solve the problem. In Western countries which share a short-term orientation culture, hiring knowledge workers from the labor market, and buying or selling parts of an organization in the market place to obtain knowledge, are common. More and more strategic alliances are also formed in order for the partners to gain more knowledge together. Compared

with the long period of time training may take and the large amount of money invested in it, this is an effective and time saving way of gaining knowledge.

According to the above analysis, it is clear that the cultural characteristics of life-time employment and long-term orientation determine that Japanese corporations' emphasis is more on internal knowledge acquirement, while the cultural characteristics of labor mobility and short-term focus in Western corporations determine that these corporations acquire more knowledge externally.

### 5.3.5 Knowledge creation vs. knowledge re-use

Japanese firms appear to be more willing to make an investment in knowledge creation than American firms. They are also willing to accept the incremental development of knowledge (Inkpen, 1996). The Japanese way represents a process-oriented, as opposed to the Western results-based, way of thinking (Warner, 1992).

It has been widely accepted that Eastern culture is more long-term focused than Western culture (see e.g. Paik and Tung, 1999; Bedona, et al., 1998; Hofstede, 1991, 1994). Japanese firms are usually focused on customer satisfaction, customer relations and product quality rather than profit-based performance. New product development is the process of new knowledge creation, which can create more customer satisfaction, strengthen customer relations and improve product quality. In order to enlarge the market share in the global market, Japan corporations keep creating new products to satisfy the needs of customers. The process of knowledge creation is time consuming and full of risk, but managers persist in order to achieve success.

In the U.S.A. the short-term cultural focus determines that corporations prefer present or near-term profit. As a result, corporations such as Andersen Consulting, Merrill Lynch, prefer to re-use knowledge. Knowledge is continually re-used until the value of the knowledge has been fully exploited. IBM and Dow Chemical also sold their old patents to receive revenue. In America people prefer present value to future profit. When handling knowledge, re-using old knowledge to achieve near-term gains seems more practical.

Hedlund and Nonaka (1993) have compared the two approaches in the different cultures:

> "The Western system typically engages in knowledge creation in large steps, through crisis and external shock. Large organizations do not renew themselves unless seriously challenged to do so. Innovation comes in large, discrete steps, whether it

concerns products or internal structure and systems. One reason for this may be the robustness and inflexibility of tightly articulated systems of knowledge and strategies. A Western firm finds it difficult to be inconsistent: that is, to undertake activities not fitting the prevailing notions of what the company is about. In the extreme the whole company is a systemic plan, where nothing can be changed without upsetting everything else. The Japanese world is not one of giant steps of new innovations. Rather it is one of a myriad of smaller improvements and incremental development of knowledge. This has to do with the permanence of the staff and the intensive dialogue in the firm. The Japanese firm is not tied to supposedly 'consistent' behavior, but easily introduces elements which to a similar Western firm would seem alien" (Hedlund and Nonaka 1993: 133).

In recent years many articles and books have argued that Japanese corporations actually always copy new products from Western countries. It is true that Japan's organizations have spent huge amount on purchasing Western technology and know-how. However, even greater amounts are spent on its own research and development programmes. Westney (1987: 224) claimed that "emulation produces innovation". This is true of Japan. When emulation continues to occur at a certain level, innovative products are created. Japanese corporations attained a leading position in the global market through such an emulation of innovation processes.

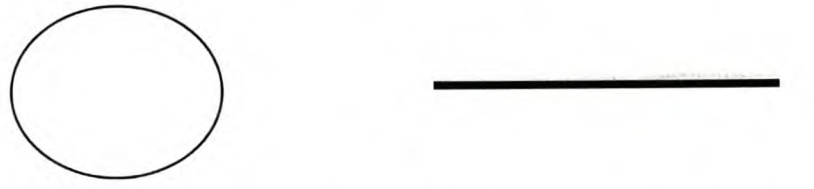
In short, the long-term focus culture in Japan and the short-term focus culture in Western countries determine their focus on knowledge creation and knowledge re-use respectively.

### 5.3.6 More knowledge redundancy vs. less knowledge redundancy

The differing attitudes towards time by different people in different cultures can be seen as a continuum. At one end is a monochronic time perspective and at the other end is a polychronic time perspective (Bluedorn, Kaufman, and Lane, 1992). One activity at a time, and finishing each activity before beginning the next, is monochronic. America and many north European countries such as Sweden have a monochronic time perspective. On the other hand, doing more than two activities intermittently during the same time period is polychronic. East Asian countries, such as Japan, have a polychronic time perspective (Hall and Hall, 1993).

In Japan people view life as progressing through days, nights, seasons, and years. Time is measured by the occurrence of natural phenomena, which are real, not artificial. Similar to natural events that reoccur interrelatedly in a circular fashion, polychronic people spend their time according to the dictates of events. When people deal with events, they tend to solve them according to their importance, without hesitating to postpone less important ones. In this manner the Japanese can do many things simultaneously, moving from one to another. Likewise, the Japanese handle new knowledge and information currently and according to their importance.

**Figure 5.1: A polychronic and a monochronic time perspective**



A Polychronic Time Perspective A Monochronic Time Perspective

Japanese prefer spiral logic and tend to analyze issues in a more systemic, circular, and interactive way (Paik and Tung, 1999, see figure 5.1). Based on a systemic and holistic logic perspective, repeatedly discussing the same issue which has been discussed before, seems normal in their daily lives, because time is viewed as spiral not linear. In Japanese organizations, knowledge redundancy is important because it encourages frequent dialogue and communication. This helps create a common cognitive ground among employees, thus facilitating the transfer of tacit knowledge. Knowledge redundancy reflects the holistic and systemic logic thought rooted in the mind of the Japanese. Redundancy and repetition of knowledge work in a circular, interactive, and spiral way to allow students to perceive the essence of knowledge fully and not to stay at just the facial level.

Most Western cultures have a monochronic time perspective which views time in a linear, sequential way, like a road that extends from the past into the future. Monochronic people devote their attention to scheduled activities, one at a time. Westerners regard knowledge redundancy as time-wasting, disordered and unacceptable, since time is viewed in a linear fashion and activities are scheduled with a clear expectation of a starting and finishing time. They think when a person had mastered the knowledge, the knowledge should not be repeated.

Briefly, different time perspectives determine attitudes towards knowledge redundancy. Due to their polychronic time perspective, easterners prefer knowledge redundancy, while westerners' discomfort with knowledge redundancy is a result of their monochronic time perspective.

### 5.3.7 Organizational learning – group level focus vs. individual level focus

From the proceeding analysis it is evident that the Japanese culture is a collective culture. People learn that they should be interdependent on others and seek fulfillment and happiness in the harmony of the group. In such a culture, organizational learning at group level is encouraged aggressively. In Japanese organizations, managers realize that individual learning is the basis of group learning, simultaneously they also realize that group discussion and group work, which is further individual learning, can create more and new knowledge. Under a collectivism culture, more value is placed on the mutual support within and affiliation with a group. People tend to be cooperative and less competitive in the working group. Based on their common background regarding knowledge, group members communicate in a higher context. Group performance is valued above individual achievement. By continually accumulating knowledge in a group, the group level of learning is enhanced.

Japan is a high uncertainty avoidance country. In order to prevent uncertainty from occurring, everything is structured. In Japanese organizations, everybody presumes that nobody knows everything in the company. If a group of people with different knowledge backgrounds and perspectives get together, however, the different sides of a problem can be studied carefully in order to reduce the uncertainties.

In conclusion it can be said that in Japanese firms, individuals firstly assimilate knowledge, which is an individual level of learning. Training programmes offer individual employees an opportunity to obtain this knowledge. The knowledge is then transferred into a group within the organization for which the employee works. The group engages in intensive dialogue and discussion, internalizing the assimilated knowledge. Group level learning thus begins. Later, both tacit and explicit knowledge are added to the organizational knowledge assets, which is the organizational level of learning. Then whole organizational learning cycle has then been completed.

In Western countries, their individualistic cultures determine that individuals primarily look after their own interest first. Individuals' rights, and property, are valued above all else. People in this culture are more independent and self-reliant. They regard privacy and personal space as

unviolable. In this culture, individual learning is much stronger than group level learning. People learn for their own sake. The loose integration between them result in the group level learning being less visible. Since individualistic people first think about the benefit to themselves, sharing their knowledge, which is their competitive advantage, does not motivate them to continue learning. As a result, the individual level of learning is inclined to become organizational learning directly, without experiencing group level learning.

In a word, the collectivism culture in Japan influences Japanese corporations to focus on group learning, while the individualism culture in Western countries influences Western corporations to emphasize individual learning.

### 5.3.8 Nurturing and loving vs. managing and measuring

The most important characteristic of Japanese think can be termed as "oneness of humanity and nature" which is also interpreted as emotional naturalism (Nonaka and Takeuchi, 1995). According to this culture, humans are part of nature and they cannot be separated from nature. As a result, this culture emphasis that human should follow the natural way of doing things. Likewise, knowledge is regarded as natural plants which need water and fertilizer. Organizations should treat knowledge like a gardener treats the plants in the garden, giving them enough care and love. Creating an amenable environment, in which knowledge creation and sharing are nurtured and loved, is the manager's responsibility. Moreover, Japanese organizations prefer to handle tacit knowledge. For tacit knowledge to be communicated and shared within the organization, it has to be converted into the right "language". This language contains many metaphors which people understand. Tacit knowledge is also hard to manage and measure. As Kim and Mauborgne indicated:

> "Creating and sharing knowledge are intangible activities that can neither be supervised nor forced out of people. They happen only when people cooperate voluntarily." (Kim and Mauborgne, 1997:71 cited by Takeuchi, 1998: 6)

European corporations seem to have the advantage with measuring knowledge and American organizations with managing knowledge. These corporations are affected by the Carthesian Split theory. They accept human beings and nature as separate, and humans should fight against nature in order to control it. The organization is viewed as a machine to process information. Knowledge is viewed as a product without life, and emotion, which needs to be managed and measured. As a

result, westerners focus more on explicit knowledge. Compared to tacit knowledge, explicit knowledge seems easier to manage and measure.

Feminine and masculine dimensions also explain why Americans prefer managing knowledge, while Swedes prefer measuring knowledge. A feminine culture regards small and slow as beautiful, while a masculine culture regards big and fast as beautiful. Moreover, in the eyes of Americans, the notion of future is relatively short-term orientated. When dealing with knowledge, Americans prefer quick and efficient ways. Consequently, managing knowledge through use of electronic means such as the Internet, email, and the Intranet is popular, since this is very quick and the result can be seen within a short period of time.

Swedes are good at measuring knowledge. Measuring knowledge is a slow and long-term practice. At least three years are needed for the result to been seen,

> " A measurement tells nothing at all unless it is compared against a yardstick of some kind: another company, previous years or a budget, for example. When we measure intangible assets, we need to be prepared to keep doing so for at least three measurement cycles before attempting to evaluate the results. Ideally measurement should be repeat yearly." (Sveiby, 1997: 164)

Measuring knowledge is a long-term process, only a feminine culture such as that of Sweden, and other Nordic countries which regard slow and small as beautiful, prefer to do so.

In brief, oneness of humanity and nature in the Japanese thinking influences knowledge management approaches through the Japanese corporations' view of knowledge as a natural plant. The masculine culture in American and the feminine culture in Sweden determine their choice of managing and measuring knowledge respectively.

### 5.3.9 Women's role in knowledge management

Japan has a distinctively masculine culture, and America is a moderate masculine culture, while Sweden is a typical feminine culture (see figure 5.1). In these countries, different cultures determine the extent to which women play roles in knowledge management.

In a masculine culture such as Japan, gender roles are sharply differentiated. Men are supposed to be assertive, ambitious and tough, while women should be tender and take care of relationships (Hofstede, 1991, 1998). In masculine societies women are viewed as the housewives who should stay at home to take care of the children. After marriage, for example, most Japanese females are

expected to stay home and rear children, and this usually means giving up their careers. Given this cultural trait, it is reasonable that Japanese corporations should hesitate to recruit and train unmarried women to managerial posts when they are likely to resign on marrying. Consequently, women managers in Japan are so scarce that they play only a minor role in knowledge management.

Western culture includes both feminine and masculine cultures. Compared to Japan, America is a less masculine country, so the number of women managers are more than in Japan. In Sweden – a feminine society – gender roles are less sharply differentiated. Both men and women think that women's liberation means that men and women should take equal shares both at home and at work (Hofstede, 1998). For example, at WM-data the company actively seeks to recruit an equal number of women and men. It claims that a wider diversity of both genders and cultures could improve creativity. Moreover, in Sweden it is common place for the father to take on the role of the house-husband and children rearing while the mother develops her career, and it is currently beginning to be accepted in the U.S.A. as well. As a result women manager, executives and chairmen are a common social phenomenon and women play more important roles in knowledge management fields in the Western culture than women in the East do.

## 5.4 Managerial implications

From the above analysis it can be concluded that managers are the children of culture. The kinds of management approaches they use reflect the cultural roots in their minds. After analyzing the cultural differences which influence the way in which managers make decisions in Eastern and Western corporations, this study deduces the following implications:

- The first point arising, is that different social groups (nations) have different cultures. Before choosing knowledge management approaches, the national cultural background should therefore be analyzed. It is necessary for managers to assess which perspective of the national culture is supportive of knowledge management practices, and which is not. Managers can encourage an organizational culture to replace the non-supportive aspect of the national culture.
- When forming joint ventures and strategic alliances, cultural differences could produce additional difficulties and challenges for managers. Partners' national and organizational culture has the potential to affect all aspects of collaboration in depth. When interacting with another culture, a manager may take one of the following first *three* positions – ethnocentric, polycentric and geocentric (see table 5.3).

**Table 5.3: Approaches to culture**

| | |
|---|---|
| 1. Ethnocentric | Home culture is correct; host culture is backward and uncivilized |
| 2. Polycentric | All cultures have quirks; recognize and accept differences |
| 3. Geocentric | Uniform standards of cultural conduct; sometimes akin to ethnocentrism |
| 4. Combination | Determined on an issue-by-issue basis; opportunism is the guiding factor |

Source: from Sanyal and Neves, 1999: 19

None of the first three are however suitable for cross-cultural managers. Therefore the fourth position – a combination approach where different cultural attributes are treated in different ways – should preferable be adopted. For example, the manager of a Japanese company in a Western country should apply a combination of the ethnocentric and polycentric approaches to manage the company's knowledge successfully. When confronted with the Western lack of

tacit knowledge sharing, an ethnocentric approach is called for, while the successful approaches to knowledge management and measurement applicable in most Western countries would prescribe a polycentric management approach.

- Employees in Eastern organizations often find it easier to share knowledge with each other and to ask for assistance from others when meeting difficult challenges (Wiig, 1997a). This is because the collectivism culture facilitates knowledge sharing. In the individualism culture in Western countries, the organizational culture could begin to build collectivism in the organization to enhance knowledge sharing.

## 5.5 Summary

In this chapter the different knowledge management approaches in Eastern corporations and Western corporations have been compared and analyzed. Eastern culture has certain characteristics such as larger power distance, high context, high uncertainty avoidance, masculine, collectivism, polychronic time perspective and long-term orientation. Western cultural characteristics include low uncertainty avoidance, individualism, small power distance, low context, near term focus, and is more feminine. These cultural differences have a major influence on knowledge management approaches. As a result, Eastern organizations are inclined to focus on tacit knowledge creation and sharing, group learning and group decisions, including the acquirement of knowledge internally. Western organizations tend to focus on explicit knowledge by "managing" and "measuring" it. Individual learning and individual decisions are common in the Western culture. Re-using knowledge and acquiring knowledge externally are the favoured knowledge management approaches in Western corporations. Finally, several managerial implications have been presented, such as implications for management of strategic alliances.

# CHAPTER 6

# SUMMARY, CONCLUSIONS AND FUTURE RESEARCH SUGGESTIONS

## 6.1 Introduction

The objective of this study was to provide a comparative analysis of cultural influences on approaches to knowledge management in Eastern and Western corporations. In order to fulfill this goal, a theoretical investigation was conducted, involving a comprehensive study of all relevant international literature, both popular and academic, on the subject of knowledge management and national cultural influences on knowledge management.

This final chapter is divided into three main sections. Firstly, a summary of each part is presented which serves to demonstrate the relevance of the individual parts and chapters to the fulfillment of the objective of this study. Secondly, the major conclusions are outlined. Thirdly, several recommendations for future research purposes are forwarded.

## 6.2 Summary

### 6.2.1 Part I Chapter 1: Introduction to the study

Chapter 1 firstly presented a background to knowledge management and its future development opportunities. Secondly, the problem which motivated this study can be summarized as the observation that large numbers of organizations inadvertently borrow knowledge management approaches from other corporations without assessing the national cultural background of these corporations. This problem is further exacerbated by the fact that Eastern and Western ways of managing knowledge contain a number of significant differences which are determined by their respective cultures. It is therefor not wise to simply transfer successful corporate knowledge management approaches without assessing the national cultural background and adjusting the approaches. To address the perception that knowledge management practices are not culturally independent, the objective of this study is

to determine the influences of culture on approaches to knowledge management in Eastern and Western corporations.

### 6.2.2 Part II Chapter 2: Knowledge, knowledge management and cultural issues

For the convenience of the reader and the later analysis, chapter 2 covered the main streams of literature on knowledge and knowledge management concepts. The differences between data, information, and knowledge were identified and the major knowledge management strategies were presented. Moreover, the organizational learning levels were also described in this chapter. In order to comprehend the objective well, many cultural issues which have a strong relationship with knowledge management, were simultaneously presented in this chapter. In this chapter the point was made that compared with the corporation culture which has received vast attention, the influences of national cultures on management and knowledge management have not been researched intensively. Consequently, a comparative analysis on national culture and knowledge management practice is necessary.

### 6.2.3 Part III Chapters 3, 4, and 5

Part three includes three chapters which covered a comparative analysis of cultural influence on Western and Eastern knowledge management approaches. It was considered necessary to first illustrate Eastern knowledge and Western knowledge management practices, chapter 3 focused on Eastern corporations – especially Japanese corporations, while chapter 4 focuses on selected Western corporations (America and Sweden) to illustrate their respective knowledge management approaches. These chapters illustrate the important knowledge management characteristics of Western and Eastern corporations, which indicate the substantial differences existing in the Western and Eastern styles of knowledge management.

**Table 6.1: Summary of chapter 3: Case studies and characteristics of the Japanese style of knowledge management**

| | |
|---|---|
| Case studies | Case 1: Toshiba - Yanagicho factory,<br>Case 2: Canon mini-copier project<br>Case 3: Sharp - Ba for knowledge creation<br>Case 4: Toyota's production system and scientific method |
| Knowledge Management Characteristics | Tacit knowledge focus<br>Favor knowledge creation<br>Group decision-making practices<br>Knowledge acquired internally<br>Group learning focus<br>Nurturing and loving knowledge<br>Relatively more knowledge redundancy |

**Table 6.2: Summary of chapter 4: Case studies and characteristics of the Western style of knowledge management**

| | |
|---|---|
| Case studies | Case 1: Managing knowledge as a mix of freedom and discipline: 3M<br>Case 2: Capturing knowledge in systems and software: Merrill Lynch and Andersen Worldwide<br>Case 3 : Knowledge re-use: American Airlines, IBM and Dow Chemical<br>Case 4: Measure intangible assets and intellectual capital: WM-data and Skandia |
| Knowledge Management Characteristics | Explicit knowledge focus<br>Individual decision-making approach<br>Knowledge re-use<br>Knowledge acquired externally<br>Individual learning focus<br>Managing and measuring knowledge<br>Relatively less knowledge redundancy |

Building on the insights of chapters 3 and 4, a comparative analysis of the cultural influences on knowledge management approaches in Western and Eastern organization was conducted in chapter 5. Firstly, basic cultural conceptions were introduced, such as Hofstede's five dimensions which serve as basis for the comparative analysis. The cultural theories of other prominent sociological researchers were also employed in this chapter. Secondly, based on these cultural theories, a comparative analysis was conducted, which presented a strong relationship between national culture and knowledge management approaches. This chapter indicated that knowledge management is not culturally independent, but substantially influenced by national cultures.

### 6.2.4 Part IV Chapter 6: Summary, conclusion and future research suggestions

The final chapter presented the most salient aspects and insights that emerged throughout the study, to substantiate the argument that the national culture does have a strong influence on knowledge management approaches. To this end, each chapter is firstly summarized. Secondly, the major conclusions of the analysis are forwarded. Thirdly, based on the findings of this study, a number of suggestions for future research are provided.

## 6.3 Conclusions

Focusing on the objective of this study as mentioned in chapter 1, the following conclusions are drawn:

**a)** Knowledge management approaches used by Eastern corporations are indeed considerably different from those used by Western corporations. These different knowledge management approaches are the result of the following:

- Eastern corporations are mainly focused on tacit knowledge and they are strong on two knowledge conversion dimensions, namely socialization and internalization, while Western corporations prefer explicit knowledge and emphasize two different knowledge conversion dimensions, namely externalization and combination.
- Eastern corporations focus on knowledge creation, while Western corporations emphasize re-use of existing knowledge.

- While both middle-up-down and bottom-up management practices are implemented in Japanese corporations, nevertheless the two essence of the two different approaches is the same – group decision-making. Western corporations implement top-down and bottom-up management practices, but the substance of these approaches is individual decision-making.
- Eastern corporations focus on acquiring of internal knowledge, while Western corporations emphasize acquiring of external knowledge.
- Eastern corporations encourage and focus on group learning, while Western corporations promote and emphasize individual learning.
- Eastern corporations regard knowledge more as "natural plants" which need love and care, while Western corporations view knowledge more as "products" which need to be managed and measured.
- In Eastern corporations knowledge redundancy is the emphasis of knowledge management, while Western corporations tend to consider the overlapping and/or repetitiveness of knowledge management practices as inappropriate and time wasting.

**b)** The culture in which a corporation operates affects knowledge management practices. This can also be interpreted as national cultures having a strong influence on knowledge management approaches. How these cultural factors influence knowledge management approaches differently can be concluded as follows:

- A high context culture in Eastern countries influences Eastern corporations, and these corporations consequently choose to focus on tacit knowledge, while a low context culture in Western countries influences Western corporations to concentrate on explicit knowledge.
- Eastern corporations' effectiveness at socialization and internalization is influenced by the aspects of their culture, for example oneness of body and mind, life time employment, collectivism, long-term orientation, high uncertainty avoidance and large power distance. Western corporations' strength at externalization and combination is determined by Western cultural characteristics such as the Carthesian dualism, short-term orientation, individualism, low uncertainty avoidance and small power distance.

- Eastern corporations' enjoyment of knowledge creation is influenced by the long-term orientation culture, while the short-term orientation culture in the West determines that corporations prefer approaches that re-use existing knowledge.
- Eastern corporations' emphasis on group decision-making is influenced by the culture of collectivism, large power distance, and high uncertainty avoidance. The individual decision-making in Western corporations is determined by the individualistic culture, small power distance and low uncertainty avoidance in Western countries.
- The culturally entrenched system of lifetime employment and long-term orientation determines that Eastern corporations use internal knowledge acquirement approaches, while a short-term orientation culture and labor mobility provide more opportunities for Western corporations to acquire knowledge externally.
- The polychronic time perspective of Eastern culture determines that tacit knowledge sharing occurs through redundancy, while knowledge redundancy is not acceptable from the monochronic time perspective which Westerners have.
- The collectivism culture in the East determines that group learning is preferred in an organization. The individualism culture in the West determines that they prefer individual learning more.
- The approaches that Eastern corporations choose in order to nurture and love knowledge are determined by traditional thinking – the oneness of humanity and nature. It is interesting to note that the masculine American culture influences American knowledge managers to choose to manage knowledge as if it were a product, while the Swedish feminine culture determines that corporations focus on the measurement of knowledge.

The following table is a summary of the conclusions of the study, which not only indicates the different approaches to knowledge management, but also presents the major cultural determining factors. From this table, as well as from the above-mentioned conclusions, it is evident that cultural background, orientation and characteristics do seem to be an important factor in applying knowledge management in corporations.

**Table 6.3: Summary of the cultural influences on the knowledge management approaches in Western and Eastern corporations.**

| Eastern approaches to management | Major cultural determining factors | Western approaches to management | Major cultural determining factors |
|---|---|---|---|
| **Tacit knowledge focus** | ▪ High context culture | **Explicit knowledge focus** | ▪ Low context culture |
| **Socialization and internalization** | ▪ High context culture<br>▪ Oneness of body and mind<br>▪ Collectivism<br>▪ Long-term orientation<br>▪ High uncertainty avoidance<br>▪ Large power distance | **Externalization and combination** | ▪ Low context culture<br>▪ Carthesian dualism<br>▪ Low uncertainty avoidance<br>▪ Small power distance<br>▪ Short-term orientation |
| **Knowledge creation** | ▪ Long-term orientation | **Knowledge re-use** | ▪ Short-term orientation |
| **Group decision-making** | ▪ Collectivism culture<br>▪ Large power distance<br>▪ High uncertainty avoidance | **Individual decision-making** | ▪ Individualism<br>▪ Small power distance<br>▪ Low uncertainty avoidance |
| **Internal acquirement of knowledge** | ▪ Long-term orientation<br>▪ Life-time employment | **External acquirement of knowledge** | ▪ Short-term orientation<br>▪ Labor mobility |
| **Relatively more knowledge redundancy** | ▪ Polychronic time perspective | **Relatively less knowledge redundancy** | ▪ Monochronic time perspective |
| **Organization learning at group level** | ▪ Collectivism | **Organizational learning at individual level** | ▪ Individualism |
| **Nurturing and loving knowledge** | ▪ Oneness of humanity and nature | **Managing and measuring knowledge** | ▪ Carthesian dualism<br>▪ Masculine/feminine culture |
| **Minor women's role** | ▪ Masculine culture | **Important role of women** | ▪ Less masculine and more feminine |

## 6.4 Future research suggestions

This study provides an insight into one aspect of knowledge management, while there are many other potential knowledge management issues that need to be addressed. The following statements identify several future research topics, some of whom are very important and need urgent attention.

1. Due to the preliminary nature of this study, which singles out the Japanese culture to represent Eastern culture and American and Swedish cultures to represent Western culture, future research efforts should be expanded to include a representative range of national cultures and corporations, for the purpose of international validity.

2. The possibility of a universal model of the role of culture in organizational knowledge creation should receive priority in further research efforts. The concept of a universal model refers to an integration of both Eastern and Western cultural approaches to knowledge management, and such research would contribute to clarity of various anecdotal viewpoints regarding the feasibility of a universal model. Such research should incorporate a valid range of Eastern and Western countries, as well as a valid spectrum of corporations (especially global corporations) active in both these cultural environments.

3. This study investigates the different knowledge management approaches in the Western and Eastern hemispheres, nevertheless it does not identify the similarities between knowledge management approaches in Western and Eastern corporations. It is therefore necessary for future research to identify knowledge management approaches that the two cultures have in common and to identify the roles that national cultures play.

4. Research is needed to address the future position of tacit knowledge in different cultural knowledge management fields, as there seems to be significant problems in some cultures to articulate their knowledge. Hedlund and Nonaka (1993: 124) also emphasize this in the following statement :

   > " It is significant that the lack of development of Chinese science to large extent can be attributed to weakness of articulating why their inventions worked."

5. This study does not judge which of the Western or Eastern models are better in terms of their adaptability in the fast changing global economy. A possible research topic could be

to investigate which models (Eastern or Western) are more adaptable to a complex environment.

6. It is often stated that the global economy and the rapid development of IT could eventually result in no or few cultural differences existing between corporations, in respective of their location. Research to investigate the influence of the global economy on national culture and knowledge management is therefore necessary.

7. When corporations in the two hemispheres (West and East) form strategic alliances, they may encounter communication problems necessitating the creation of a model which could serve as a bridge to facilitate the sharing and creation of knowledge between Western and the Eastern corporations.

8. The question of how to coordinate both the national and corporate cultures to facilitate knowledge management has become a valid research topic in knowledge management, since each culture has advantages and disadvantages regarding knowledge creation and sharing. For example, the low context culture in the West supports explicit knowledge sharing and creation, but it limits tacit knowledge sharing and creation.

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